

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

62.67

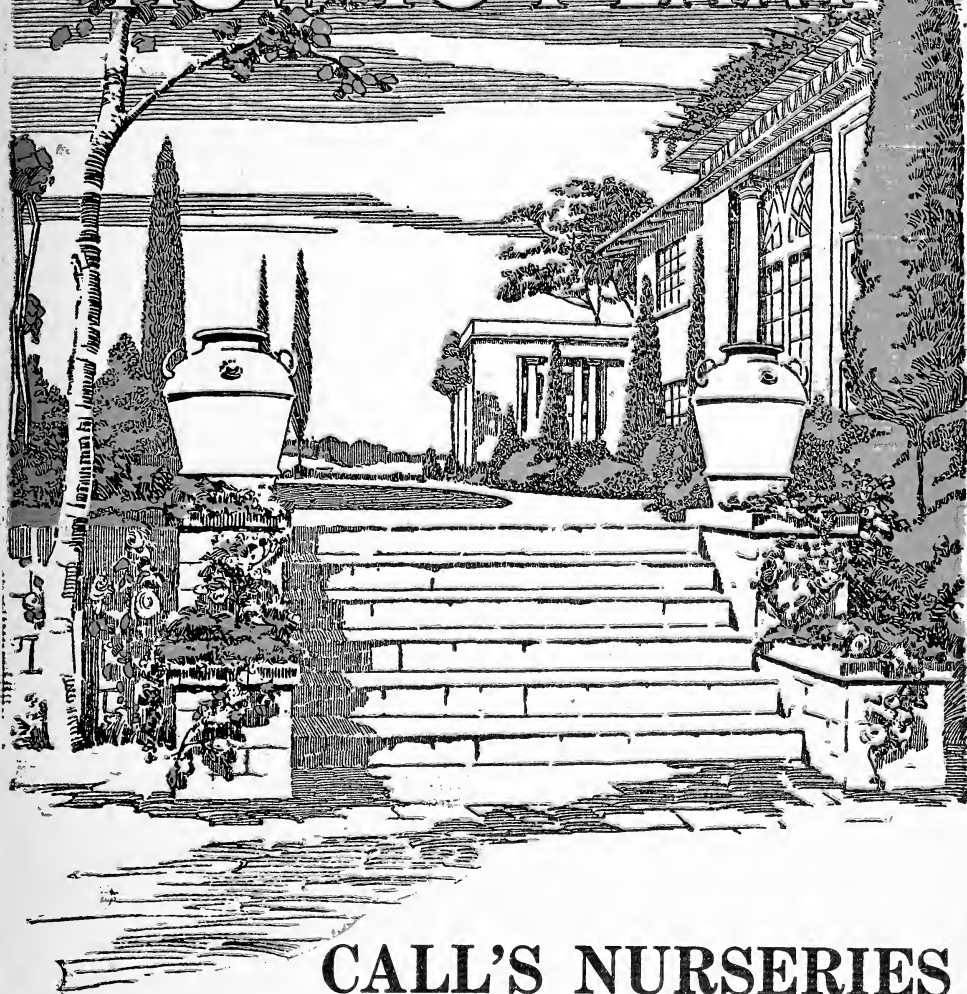
1926

LIBRARY

NOV 14 1926

U.S. DEPARTMENT OF AGRICULTURE

WHAT WHERE WHEN AND HOW TO PLANT



CALL'S NURSERIES

Established 1877

PERRY, OHIO

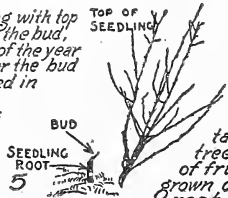
NURSERY PROPAGATION OF FRUIT TREES

Drawings of Nos. 2-3 and 4 in chart of Peach, and Nos. 3-4 in chart of Apple, are enlarged to show detail.



Peach Seed Selected for Planting

Peach Seedling with top cut off above the bud. In the spring of the year following after the bud has been placed in position and only allowing the bud to grow.



Bud Stick taken from the tree of the variety of fruit wanted grown on seedling root.



Peach bud in position



Peach Seedlings, one season's growth, with bud placed in position which was done in August during growth of seedling.



Peach tree dug showing bud, top and seedling root, six months after top of seedling has been cut off.

Peach tree showing both seedling roots and bud, trimmed ready to plant in orchard or permanent place.

The PEACH



Seedling one year old, grown from seed. Trees propagated on seedlings, either European or American grown. The process of budding apple, pear, plum and cherry is the same as the peach except that the seedling is planted in nursery rows instead of seed, and the bud is usually grown two years instead of one.



Apple Scions or limbs taken from apple trees, of varieties or kinds wanted grafted on seedling roots. Scions taken off when trees are dormant in fall of year after leaves have fallen and wood of same years growth.



Splice of tongue or whip graft. Many other modes of grafting, but this is the kind most Nurserymen use.



Graft and Root united. Bark of Scions and Root should make perfect Union. Grafting is usually done by a nurseryman in January and February and placed in storage for spring planting.



A. One year old Apple from graft showing growth of both top and roots. B. Two year old apple from graft showing growth of top and roots.



The APPLE

Apple trees can be propagated either on apple seedlings, haws or thorn. Plum trees can be budded on almost any kind of wild plum stock or peach seedlings.

Myrobalan Plum stock is usually used by Nurserymen.

Cherry, budded on almost any wild cherry stock, but Myhaleb or Mazzard cherry stock is usually used by Nurserymen.

Pear is budded on French pear seedlings, Kieffer and Japan pear seedlings, but French pear seedlings is preferred by nurserymen.

Dwarf Pear are propagated on Quince roots.

Dwarf Apple are propagated on Doucin and Paradise stock grown from cuttings.

All fruits can be grafted, but seldom any of them are grafted for nursery growing except apple.

What, Where, When and How to Plant

Concise Directions for the Planting and Care of

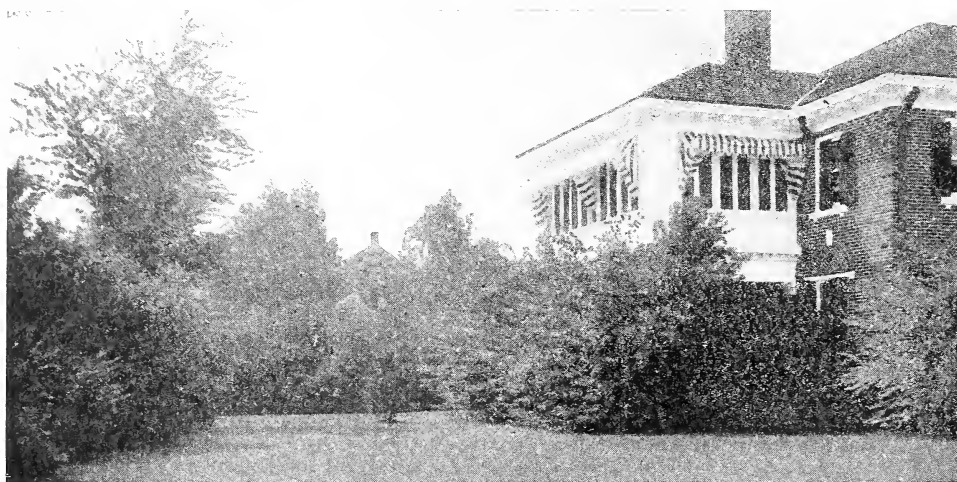
*Fruit and Ornamental Trees, Plants,
Roses, Shrubs, Evergreens,
Vines and Perennials*

.....
Third Edition
.....

Revised and Re-edited by
ALFRED C. HOTTES

*Facts on Four Questions That
Everyone Wants to Know*

First Edition Copyrighted, 1913. Second Edition Copyrighted, 1914.
Third Edition Copyrighted, 1926.
Printed in U. S. A.



What, Where, When and How to Plant



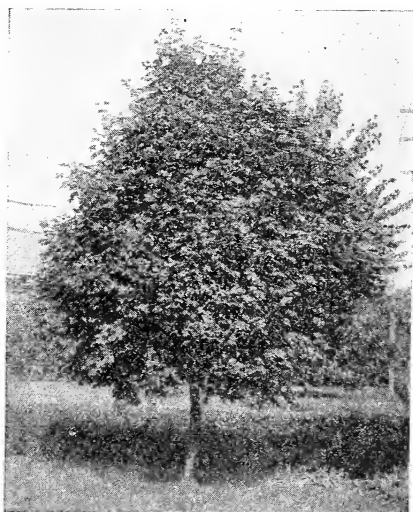
HERE are four questions which arise in the mind of every home owner in the land—What, Where, When and How shall I plant my yard so that I shall enjoy it more, that I shall be proud to own it, and that I shall inspire my neighbor to do likewise.

There is a keen pleasure to be derived from having planted trees, fruits, shrubs and flowers with our own hands, by having planned their location and by having produced a truly beautiful picture in the area we call our home. There are some persons who do not deserve to live in a house, they care so little for its appearance. There is no touch of nature in their surroundings, they might as well be living in the arctic regions or in a valley of the desert.

Everyone appreciates a few trees and some even venerate them; realizing that trees may become the oldest living things. Some forget their duty to plant for posterity, accepting the existing trees without a thought of gratitude to him who planted them. What monument might be greater to a man, what gift could be more appropriate to a friend than a living, growing tree!

Which fruit tastes better than that picked fresh from one's own sweet apple tree or blackberry bush? How proud is the housewife who can say, "There are strawberries from our own garden. In a short time we shall have cherries to can—peaches, too. Our dwarf apple trees produce all the apples we need."

And then the thoughts travel to the garden of flowers. Whose perennials are more delightful than our own? What pleasures we derive from annuals we have raised from seeds, carrying them from their



Norway Maple

tiny babyhoods past the frosts and droughts which so easily beset our fledgling plants! No matter how abundantly trees and shrubs may be planted we miss the refinement and completeness which the flowering plants add to our home grounds. They respond to our care and furnish an almost immediate satisfaction to the impatient person who has built a new home.

We call our plants by name and gradually we learn their needs. They seem to respond to our friendship. The true garden lover considers that he knows only such fruits, flowers, trees, shrubs and evergreens as he himself grows. It is true that some of the flowers which we like the best refuse to flourish as we hoped, but even our best friends sometimes provoke us.

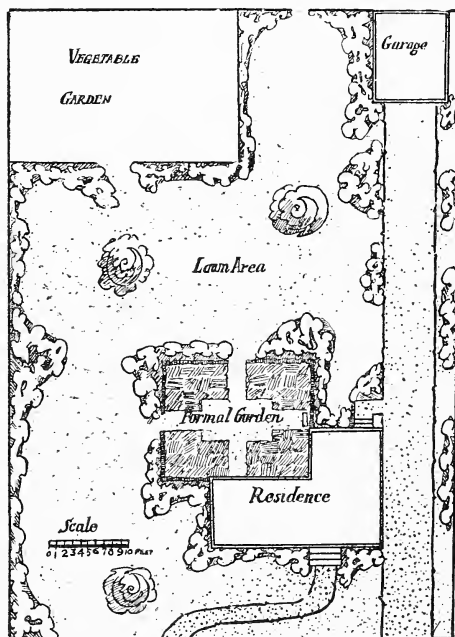
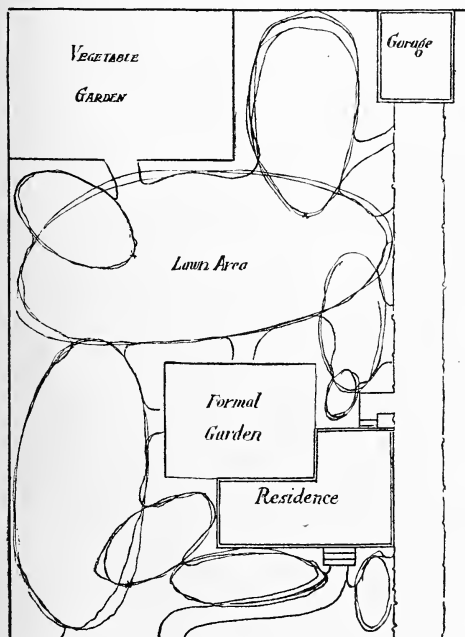
In a garden we are ever subject to weather and season and our plants thrive dependent upon the frost and rains but also upon our industry. Good luck with plants is care and cultivation in league with the weather. A friend once said, "If one complains about the weather that is favorable to his plants, he is indeed a poor garden lover."

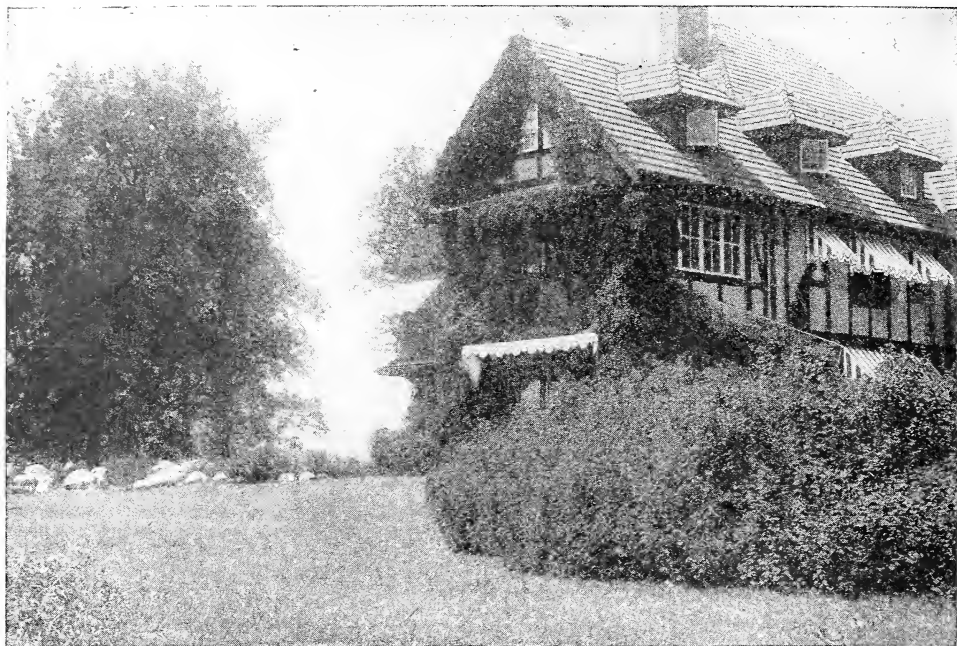
Planning the Home Grounds

How we can plan our home domain so that the effect will give us a measure of satisfaction is our next consideration. If you are replanting an old established place, remember that if an old shrub or tree, or walk, or fence, spoils the effect of the planting, that eyesore should be removed. Think of your home grounds as a picture which you would gladly frame to hang in your home. What features of your house and yard don't you like? Can it be corrected or removed?

LANDSCAPING YOUR OWN PLACE

Large estates require the services of a professional landscape architect but there is a growing desire on the part of home growers to wrestle with the problem themselves. The simple way to determine the location of trees,





Anchor tall houses to ground with vines and shrubs.

shrubs and the features of a garden is to locate first, by a simple sketch, the house, garage, vegetable area, walks and other necessary features. Take your pencil and draw ovals in the remaining areas, this will divide the spaces so that the necessity for shrubs, trees and perennials is indicated. See the sketch. By this method the eye follows from one planting to another naturally and the general effect is sure to be pleasing.

In planning your development give consideration to the following questions:

1. Draw the outline of your grounds.
2. Locate the house, garage and other buildings. Give all measurements.
3. Indicate in ink such existing walks and drives as are needed and in pencil those not needed or which should be changed.
4. Locate the trees, shrubs and other features you desire to retain, using ink; then in pencil indicate such as have out-lived their usefulness or those which interfere with pleasing views.
5. Indicate on the plan the good views and the objects to be screened.
6. Mark on the plan the direction north as this will indicate the necessity for shade-enduring plants.
7. Take several snap-shots of the house in several directions if you desire a landscape gardener or nurseryman to plan the planting. The style of architecture will determine the proper planting.
8. What garden features do you desire—a pool, a pergola, arches, sun-dial, bird bath, rose garden, vegetable garden, sand box, garden house?
9. Do you prefer formal or natural effects?
10. Do you want shrubs or evergreens for foundation planting?
11. Do you want perennials and also a place for annuals?
12. Do you want hedges? Which sorts do you like best?
13. Do you want vines? Which are your favorites?
14. Do you want trees—on the lawn or at the boundary?
15. Do you want fruit-trees and small fruits?
16. How much do you desire to spend? Never send your plan to a nurseryman asking him to suggest plantings unless you stipulate the amount you can afford to spend. The proper treatment often demands a larger outlay than one could afford at present, in that case merely say that you desire a complete plan at present but can spend so much money on it and ask advice about which should be planted first.

Ornamental Trees

LAWN TREES

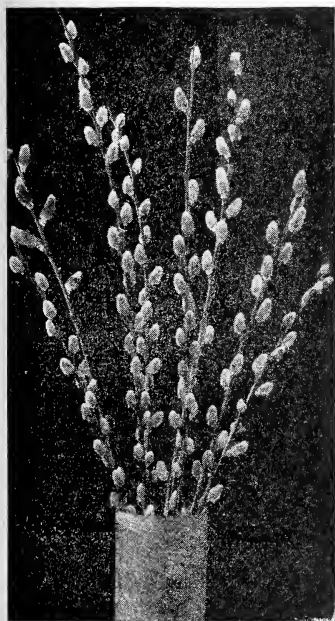


ALL trees are not lawn trees but some are most attractive because of graceful habit, pleasing foliage or showy bloom. Some of the finest small lawn trees belong to the group of ornamental Crabs, namely: the Bechtel Crab, with its good foliage and large semi-double flowers of wondrous soft pink color; the Japanese or Floribunda Crab, with its red buds and pink flowers, and the many other good sorts. The Flowering Cherries and the Japanese Plums, especially *Prunus Triloba*, are attractive as is also the Purple Plum (*Prunus pissardi*).

Of our native trees the Redbud or Judas tree, producing lavender rose flowers before the leaves appear, and the Flowering Dogwood are both popular. The various sorts of Hawthorns usually have more or less horizontal branches so that they have a distinctive appearance in a planting. Of the larger trees for lawns, the Elms and Maples have few rivals. The Elm is admired for its sheltering branches and the Maples, the Norway, and Sugar and the Red, for their ability to grow into well formed trees. The various Lindens or Basswoods should be more planted as they are symmetrical, and handsome in flower and foliage. The Pin Oak may be used for its graceful drooping habit, and bright red fall



Red Bud Branch



Pussy Willow

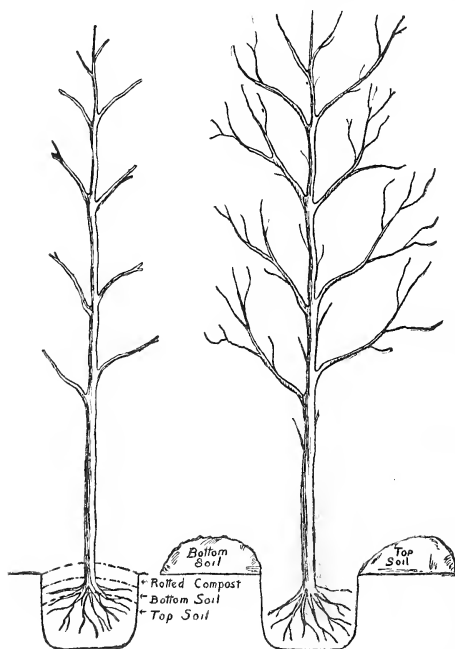
leaves, the Bolleana and Lombardy Poplars for pyramids of growth to screen unsightly places and to improve the skyline, the Pussy Willow (of which the sort known as the Goat Willow, *Salix caprea*, is the best) for its display of large "pussies" which are such a joy to cut and force in water in late winter, the Sycamore for its white bark, the Birches for their truly feminine characteristics, the Purple Beech for its color needed in many plantings, the Ginkgo for its curious leaves and upright habit when young. See lists on page 39 for other trees.

Where to Plant. Trees not only furnish a background for the shrubs and flowers, but they make a boundary for the sky. It is desirable to have a large sky space and the space should be as informal in shape as the clouds themselves. Trees should be chosen with regard to the size of the garden. For a small garden only shrubs should be used as a boundary or perhaps one tree or group of trees on the north side. For a large garden, trees may sometimes be used on all sides, as there will be plenty of space for sunshine anyway. The outline may be varied by



using groups of various kinds of trees, so that it may be irregular and produce a most pleasing effect. It is well if the trees can be planted a year or two in advance of the shrubs and perennials. The border of woody growth, varying from low shrubs to high trees, furnishes a frame or setting for flowers, shielding the shade-loving ferns and other shade-loving flowers from the sun in one place, giving the flowers the advantages of his rays in another, and protecting the whole from the sweep of the wind. Remember, the desired effect cannot be realized in one or two years.

When to Plant. Except for Birches, Tuliptree and Magnolia, all deciduous trees, that is those which shed their leaves, may be planted in the late Fall after the trees are fully matured. The before mentioned trees and all others may be set in Spring as soon as the frost is out of the ground.

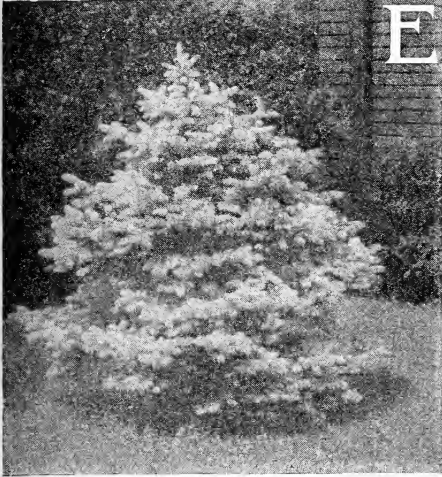


How to Plant. The hole in which the tree is to be planted should be considerably larger than the space occupied by the roots at the time of planting. The end of the roots should be cut smooth and the space filled in with good, rich soil, which should be carefully pounded down. Before the hole is completely filled, especially where the soil is light or sandy, a good wetting is useful in settling and packing the ground. It is usually well to cut off about two-thirds of last year's growth of branches. Do not disfigure the tree by cutting off large limbs, or topping it. Especially is this true of the Pin Oak, which recovers its leader with difficulty.

Evergreens

Green's a good color and so we don't change.
Others play with green; they put it on and off as folks do garments.
Think about green! Even the grass turns brown,
And maples get drunk with gold and red.
When all's said, just shut your eyes, think green, and you will see
Spreading its boughs on a hill, a green pine tree.

—Louise Driscoll.



Colorado Blue Spruce

EVERGREENS' are justly becoming more popular as plants to surround our homes. We need their permanent touch of green to enliven the winter and early Spring appearance. There are evergreens for each use. Lists are found on pages 40 and 41.

Persons who have not informed themselves about evergreens often make serious mistakes in planting them. Certain evergreens are adapted to foundation planting; these generally grow slowly so that they do not become unsightly when used in there place about the home. Some of the cheaper evergreens, such as Pines and Norway Spruce, are also evergreens, it is true, but they are improperly used near our homes because they soon grow into large trees and de-

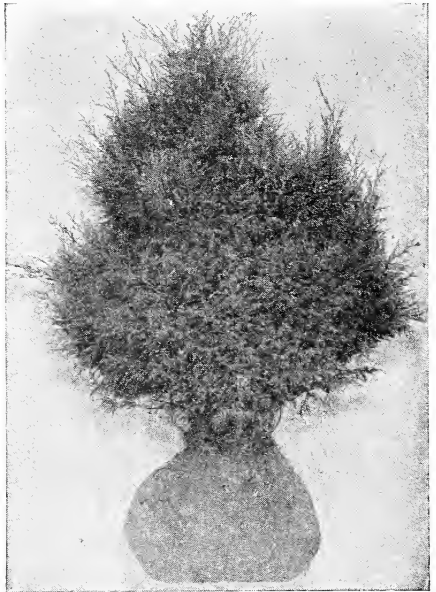
stroy the effect we are attempting to produce. However, even these sorts may be used if we prune out the tops and shear them slightly to keep them within bounds. The better sorts always cost a little more because they require great care in the nursery. To successfully transplant evergreens near your home, the nurseryman must yearly transplant them in the nursery.

WHAT TO PLANT

If you feel that you desire a planting of Evergreens, purchase Nursery grown trees only, and plant all good medium size, transplanted stock. They will make you a better plant and you have the pleasure of seeing them develop into fine specimen trees. You can also keep them trimmed or pruned to any size you desire and they will establish themselves better in their new home.

Plants 18-24 inches, except Dwarf growing varieties are as small as it would be advisable to plant; trees not over 4-5 ft. Trees of this size and age have formed habits of growth.

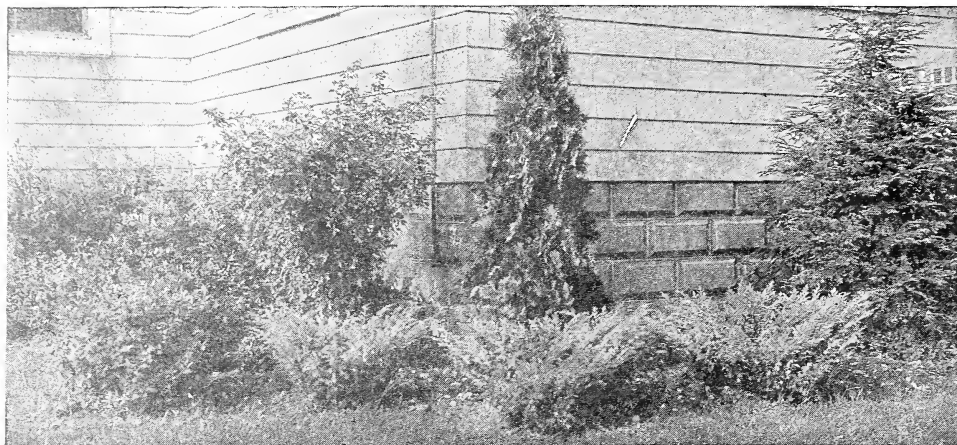
Evergreens need more attention when first transplanted than Shrubs or other plants. They cost more and if you feel that you cannot afford to give them the attention and pay the price, frankly we advise you to plant Shrubbery, of which there are so many kinds.



Retinospora Plumosa

WHEN TO PLANT

Evergreens make growth in late Spring and are successfully moved at any time that they are not in active growth. The three best seasons to

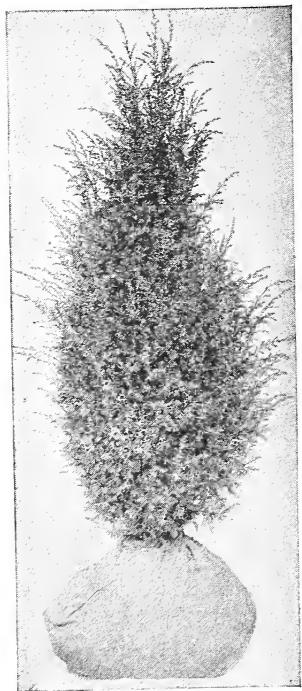


An Evergreen Group

transplant are: (1) early Spring before growth starts; (2) late Summer; (3) in Winter when the ground is frozen, large evergreens may be dug with a frozen ball of soil. In Winter planting, mulch the ground where the evergreens are to be planted heavily with manure. This will facilitate the proper digging of the holes when the manure is removed.

HOW TO PLANT

When buying evergreens it is always best to have the trees balled so the soil will not fall from the roots. The holes in which the Evergreens are to be planted should be at least three times as large as the ball around the specimen to be planted and eight inches or more deeper. By carrying out this idea all the soil around the roots will have been thoroughly loosened or cultivated. When the tree is placed in the hole the ball of earth should be broken up. Fill the hole partly up with loam (as described for other trees) then almost fill the hole with water. Let this settle and fill in with remainder of the dirt, firming well around the trees. Use plenty of mulching of well rotted compost.



Irish Juniper

WHY EVERGREENS DIE

1. They are easily injured by Winter winds which dry out the branches. The tenderer sorts should be protected with burlap.
2. They are susceptible to damage during such Winters as follow a dry Fall. Water thoroughly all evergreens so that they do not go into the winter dry.
3. In the Summer red spider, a tiny insect, causes the branches to become greyish green, especially during the driest and hottest part of the Summer. Dust with sulphur, spray freely with water or use an oil emulsion of some sort to prevent injury.
4. Mulch for the first year after planting to preserve the moisture.

PRUNING EVERGREENS

The beauty of the Spruces, Pyramidal Arborvitae and Firs depend upon their symmetry of growth. To retain this characteristic pinch out the growing tips of such branches as promise to extend out where not desired.

To induce compact growth in Red cedar and Arborvitae remove the leaders and shear the plants in early Spring cutting off merely the tips of the branches.

To maintain evergreens at the proper height, especially the Cypressess, Retinospora and Hemlocks, used in foundation plantings, it will be wise to cut out the tops a year or more before they attain the ultimate height desired. Because the leaders can not be removed from Pines, Spruces and Firs, they are not as useful for foundation planting.

Purchasers of evergreens often complain that they are shabby in appearance, because they neglect the above points in pruning, which consumes but a few minutes of time.

BROAD-LEAVED EVERGREENS

The broad-leaved evergreens stand in a class entirely alone. They require much more care in handling than do ordinary shrubs, because these broad, evergreen leaves present an enormous evaporating surface in Winter when deciduous trees and shrubs have none at all. Consequently, if the sun strikes these broad leaved evergreens during a thaw in the Winter, the leaves have to transpire as usual but the roots, being frozen, cannot supply moisture to the leaves as fast as they need it, to replace what they are giving off. That is the chief reason why so many Rhododendrons die.

There are a few rules to be remembered in regard to broad-leaved evergreens.

1. Plant broad-leaved evergreens in a partially shaded portion where they will be protected from Winter winds and sunshine.

2. Prepare the soil with the greatest possible care.

3. Give perfect drainage.

4. Rhododendrons, Azaleas, Heather, Leucothoe, Andromedas and other members of the Heath family will not grow in limestone soils unless the soil is prepared especially. Dig out the beds two feet deep and fill with loose, leaf mold soil to which sawdust has been added. Place gravel or a drain tile in the bottom of the bed. Avoid limestone water. Treat the beds annually with magnesium sulphate at the rate of one-half pound to a square yard of soil or water with one part tannic acid to fifty parts of water. Use cotton seed meal as a fertilizer.

5. Mulch with a foot of litter, Summer and Winter, for the broad-leaved evergreens are always sensitive to drought.

Refer to page 42 for list of broad-leaved evergreens.



Azalea



Rhododendron

Ornamental Shrubs



OO often the shrubs we see about the homes of our country are chosen for us. We want masses of permanent plant growth and we have not chosen the shrubs for their individual beauty in the same way that our trees and perennials are selected. There are shrubs for all purposes—those with attractive bark, fruit and flowers—those whose habit varies from gracefulness to stateliness—those which are useful in masses and those of great individual beauty—those for sun or shade, for rich or poor soil, for drought or for bogs, for acid soils and those tolerating little sourness. For various lists see pages 42 to 45.

BEST SORTS FOR THE HOME GROUNDS

Without a doubt the most commonly planted shrub is the Van Houtte Spirea, a shrub of great beauty and usefulness. It tolerates adverse conditions of shade and lack of moisture, and blooms in spite of neglected pruning and cultivation. To describe this shrub we need only say that it is the Spirea seen in May when rains are frequent. It is the one producing innumerable clusters of white single flowers upon graceful, arching branches and is so appropriate and useful for many places.

There are many other sorts of unusual interest, foremost being the Anthony Waterer and the Froebel Spireas, both of which have flat clusters of crimson flowers; the former is more dwarf and compact, the latter has the advantage of producing shoots from beneath the faded flower clusters which grow up and hide the unsightliness without pruning. Unlike the above mentioned sorts the Billardi, the Douglas and the Hardhack (*Spirea tomentosa*) produce their flowers in long, slender, spike-like clusters.

SHRUB ARALIA

A shrub of great usefulness for city conditions is the Shrub Aralia (*Acanthopanax pen-*

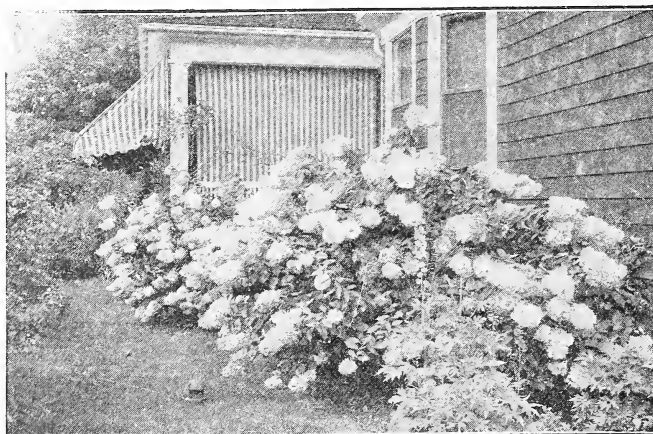
taphylla) because it tolerates shade and drought. The leaves are cut into a number of divisions. The branches are upright and grow rapidly. This is useful for foundation planting, also for steep banks and even for hedges.

LILACS

The old-fashioned Lilac has been so greatly improved by the French hybridist, Victor Lemoine, that the ordinary Lilac will be used because of its cheapness only. Named varieties are listed in the catalogues. In the culture, bear in mind that the abundant suckers reduce the flowering and for that reason the lilac is well trained to tree form.

MOCK-ORANGE

The Mock-orange or *Philadelphus* but very often called improperly the

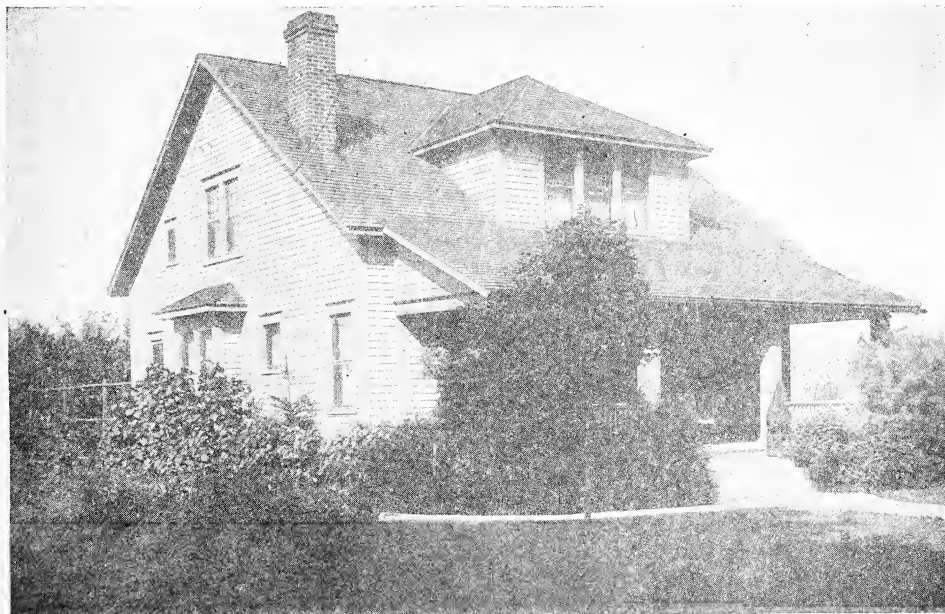


A Hydrangea Planting



A House Before Planting

Syringa, has also gone through great improvement so that we now have such varieties as Virginal, a marvelous large, white, semi-double, sweet-scented sort, and Bouquet Blanc, which produces a veritable fountain of small white flowers in bouquets. These shrubs are of great hardiness and tolerate city conditions. Although only a few of the many shrubs are mentioned, scores are valuable. See lists on pages 39 to 48.



A House After Planting

How to Plant Shrubs



HE planting of shrubs is not attended with difficulties if the following points are remembered:

1. Having received shrubs from the nursery, plant them as soon as possible, so that the roots may not be exposed to the sun or dry out. If received too early to plant or at an unfavorable season heel them in a convenient place, being sure that the roots are well covered. When shrubs have dried in transit bury them, tops and all, in moist soil for several days.

2. Dig the holes large enough so that roots are not too crowded and twisted.

3. Use good top soil around the roots rather than at the surface. The builders often leave much rubbish or bad soil next to the cellar walls so that in foundation plantings some of this should be removed and replaced with soil enriched with manure.

4. Pack the soil thoroughly about the roots.

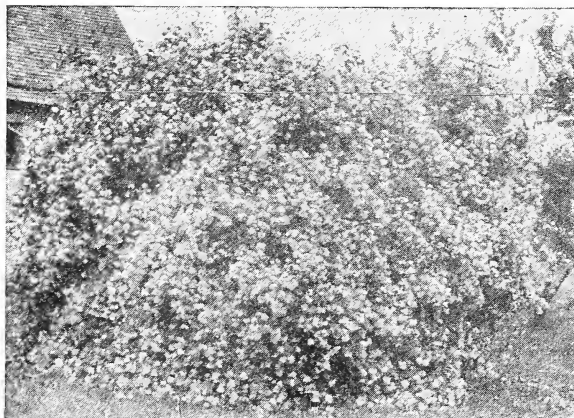
5. Water after planting and frequently enough to keep the soil moist.

6. Prune the branches at planting so as to balance the loss of roots which would result from their being dug.

7. Mulch shrubbery for the first year after planting using decayed manure, marsh hay or straw.



Lilac Bloom



Philadelphus or Mock Orange

Many persons make the mistake of planting shrubs too far apart with the thought that they will grow larger. This is true but it is more satisfactory to get effects with them without waiting. Set as deep, or a little deeper, than they were in the nursery row and about three feet apart. If closer than this they will look crowded, while if farther apart they will look lonely. In two years the branches will intermingle, and probably in five or six years it may be necessary to

remove every other one of the shrubs and plant them in some other place.

HOW TO PRUNE—In the pruning of shrubs which have been neglected they often appear to be a hopeless mass of branches but if one will proceed gradually he can soon bring them to good form. Reach into the bush and remove first, all dead wood, second, some of the oldest branches, cutting them out at the surface of the soil. The next step is to shorten back the growth so that it shall appear graceful and natural. It will be noted that in the case

of most shrubs, such as Spireas, Weigelas and Mock Orange, the flowers are produced along the branches of the previous year. Just below the flowers, there is a tendency for shoots to start. If shrubs are pruned after flowering and cut back to these shoots, they will grow long and attractively carry the blooms the next year.

If shrubs are old, unsightly and bare of leaves and branches at the base, it is wiser to cut them back to the soil and give them an opportunity to make a fresh start.

PRUNE AFTER FLOWERING—There are two seasons for pruning shrubs, and their attractiveness depends upon following their requirements rather closely. The following shrubs produce their flower buds through the winter so that if they are pruned in early Spring the quantity of bloom is lessened.

Azalea	Lonicera fragrantissima (Fragrant Honeysuckle)
Calycanthus (Sweetshrub)	Magnolia
Cornus mas (Cornelian-cherry)	Philadelphus (Mock Orange)
Cydonia (Japanese Quince)	Spirea
Deutzia	Syringa (Lilac)
Forsythia (Goldenbells)	Weigela

PRUNE IN SPRING—The following shrubs bloom on branches produced during the current season. The buds are not already formed in early Spring. Some of the shrubs should not be pruned after flowering because of their attractive fruits.

Althea, Shrub (Hibiscus syriacus)	Hypericum (St. Johnswort)
Baccharis (Groundselbush)	Kerria
Berberis (Japanese Barberry)	Malus (Ornamental Crabs)
Callicarpa (Beautyberry)	Roses
Colutea (Bladder-senna)	Stephanandra
Hydrangea (Hills-of-Snow and P. G.)	Symphoricarpos (Coralberry, Snowberry)
	Tamarix—except early flowered sorts

WHEN TO PLANT. Shrubs are successfully planted in the Autumn at which season the soil is moist. A full selection is always obtainable at that season.

Most shrubs can be set as early in the Spring as the soil can be worked or even quite late providing the shrubs have been stored through the early Spring in such a way that they have not started into excessive growth.

OTHER PLANTING CONSIDERATIONS—Avoid isolated specimens. A better effect will be obtained by grouping them and planting the tall varieties in the back-ground using the lower and dwarf varieties in the front. Do not plant shrubs in straight lines. It is well in outlining the border to have deep bays which will give a greater distance and also carry with them the idea of a mysterious passage to something beyond.

Shrubs may be used as a screen to hide unsightly objects. A barrier of living green makes any unpleasant object practically non-existent whether the space be large or small. If privacy is desired the shrubbery border may be so arranged as to almost completely exclude the outside world and yet allow views which will add a charm to the grounds.

One of the most important points to be kept in mind is to harmonize the buildings with the shrubbery and trees. The object desired in the home grounds is to give the house and other buildings, which are not natural to the ground, a perfectly comfortable setting, so they will look cozy and homelike. This requires a careful planting of shrubs and vines around the walls of the house, so that it will have something tying it to the ground, as it were. Here, again, beware of shutting yourself in, while shutting out the public. The planting along the side of the house effectively breaks the line between the house and ground. Here, as in the border, avoid straight lines. Do not plant the tall growing plants in front of the windows. If planting for winter effect as well as summer, there are many forms of evergreens, especially the dwarf varieties that can be used in the beds in front of the walls. All shapes and sizes may be had to suit the style of architecture.

Hedges and Windbreaks



Privet Hedge



HERE is nothing that will add so much to a place as a hedge if properly placed, cared for and the proper kind used, whether evergreen, deciduous or flowering.

There is little question but that a hedge fence is cheaper than other fences and adds more value to a place when a barrier is needed. The pleasure derived from the hedge is worth more than the expense and labor required for its care.

WHAT TO PLANT

The kind of a hedge to plant depends upon the surroundings, location, and the purpose it should serve. If it is to be used as a protection against chickens, dogs, cats or stock, it is well to stretch fine meshed 15 to 18 inch poultry netting on the exact line of the fence. Plant a row alternately on each side and as near the netting as possible. Within a few months the hedge will grow through this, completely hiding it

and will make a fence through which even a cat cannot go.

For the ornamental hedge there are many plants that may be used with happy results.

PRIVET—The California Privet heads the list, being better known and cheap, therefore more generally used than any other hedge plant. When well kept a fence of this is very effective. It thrives in almost any soil and seems to be equally happy in sunshine or shade. It does not usually suffer from drought. Sometimes the winter is too severe for it. Then trim back close to the ground and in a short time the hedge will be as beautiful as before. The *Ibolum* Privet is not as well known as the California, but is more hardy. It will do well as far north as Minnesota. There is still another Privet, with two varieties that are very satisfactory. The one, *Amoor Privet North*, is very hardy and recommended for the North. *Amoor Privet South*, which is evergreen in the South, but not suitable for planting in the North. To obtain the best and quickest results with the Privets, the plants should be one or two years old and twelve to eighteen or eighteen to twenty-four inches in height.

BARBERRY — Of great beauty, the Japanese Barberry (Ber-



Russian Olive Hedge



A Barberry Hedge

beris thunbergii) is much used because of its thorny branches which resist intrusion by man or pets, together with its attractive foliage which turns red in Autumn at which time the shrubs are laden with red fruits. Recently there has come into culture an attractive low form known as the Box Barberry which can be kept at a height of six to eight inches.

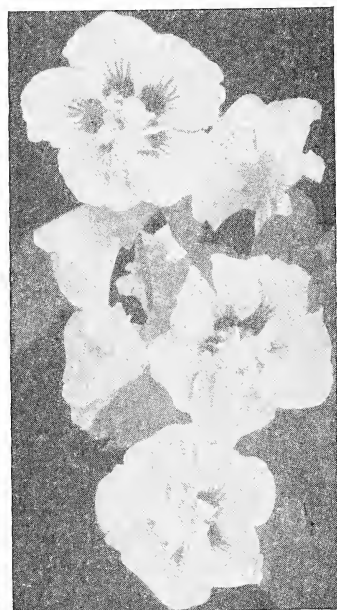
SHRUB ALTHEA — Among the flowering hedge plants there are a great number that have proven most satisfactory, chief among these being the Althea or Rose of Sharon. This is very effective even early in the season before the blossoms appear. The foliage is light green and handsome. The flowers begin to appear usually the latter part of July and continue until frost. This is especially valuable where a tall hedge is desired which shall not take up too much room.

SPIREA—The Van Houtte Spirea makes a very attractive hedge. Nothing can excel in beauty the long, drooping, arched branches of this Spirea when covered with its load of white blossoms in May. It is best grown quite naturally and not severely pruned to a formal shape.

EVERGREEN HEDGES—Notwithstanding the enthusiasm generally shown for the deciduous hedges, and the delight we get from the hedges of the beautiful flowering shrubs, there is nothing that will quite take the place of an evergreen for the hedge nor that furnishes so good a protection against the winter's chilling blasts. The Hemlock is probably the evergreen which holds first place for hedges and windbreaks, especially in the shade. Norway and White Spruce are other valuable evergreens for hedges and windbreaks. Norway Spruce should be 12 to 18 inches tall and the White Spruce 12 to 18 or 18 to 24 inches high when set out.

The Arborvitae is probably equal to the Hemlock. It is stouter and stiffer and will require dusting with sulphur and spraying with water to keep down red spider. Little trees 12 to 18 inches and 18 to 24 inches high are most to be desired.

WINDBREAKS—While the hedge serves, in a measure, as a protection from the piercing winds of winter, yet it is frequently desirable to have a tall hedge or windbreak. When the wind passes over a large body of water it becomes several degrees warmer than the atmosphere, by



Shrub—Althea Blossoms

taking up the heat from the water as well as the moisture. In this case a windbreak would be detrimental. From a general study of the subject it seems that for interior localities, a dense belt of evergreens with a background of deciduous trees to keep the evergreens from becoming ragged, is advisable, because winds coming over the land are liable to make the plantation colder.

A windbreak may exert a great influence over a fruit plantation. The benefits derived from a windbreak are:

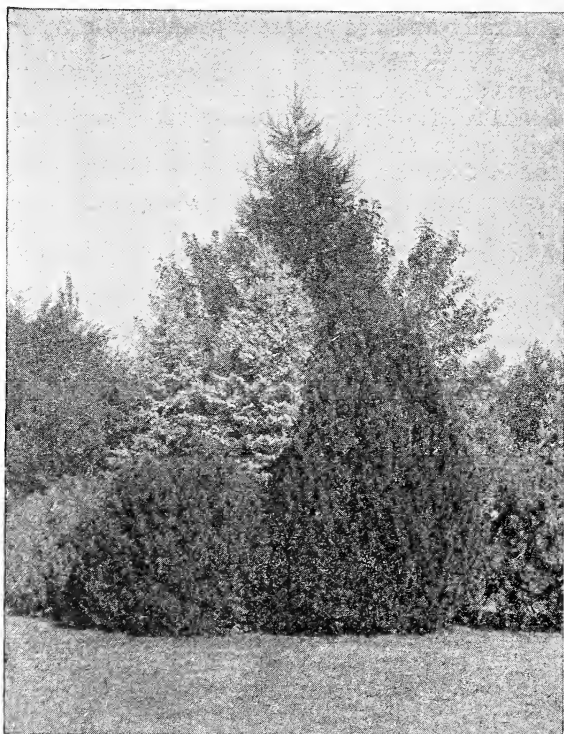
1. Protection from cold;
2. Lessening amount of evaporation;
3. Enabling the trees of an orchard to grow more erect;
4. Furnishing homes for birds.

HOW TO PLANT A HEDGE

In setting the hedge let the plants be set ten to twelve inches apart in a single row or stagger them to form a double row with the plants about the same distance apart. To get quickest results in planting a hedge, mark out the line where the hedge is to be planted. Dig the ground at least 15 to 18 inches deep and about 2 feet wide along the line made for the hedge. Mix the ground thoroughly with well rotted compost or barnyard manure, pulverize the ground well, and level the top surface, then draw a line exactly where the hedge is to be planted; walk over the line and it will make a mark showing where to plant. If the roots are large it is best to throw out a ditch large enough to receive the roots without cramping and deep enough so the plants, when properly placed, will be in a few inches deeper than they were planted in the nursery row. When the ground settles it will leave them at about the proper depth. Put the plant at the proper place in the trench or ditch, throw dirt in around the roots, working it up among the roots well, and firm in about two-thirds of the trench with dirt. If the ground is at all dry, put in plenty of water and throw in the remainder of the dirt, but do not firm it for at least a day or two, so as to prevent the soil hardening around the roots.

TRIMMING

Hedges can be trimmed at any time, with the exception of flowering hedges. These should not be trimmed until after they are through blooming, then trim them so they can form blooming wood for the next season's flowers. As to the shape of the hedge, this depends on your own likes and dislikes and what is needed to be in harmony with the surroundings.



Evergreen Windbreak

Perennials



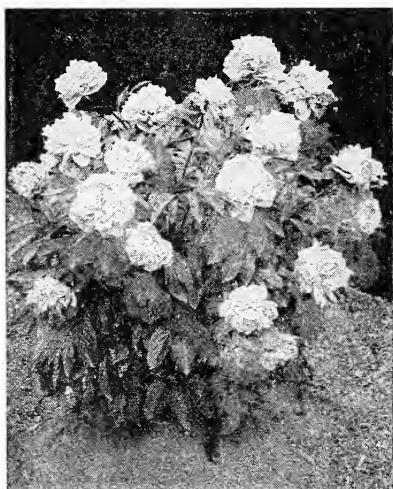
THE number of perennials which may be grown in a garden is legion, and the diversity of your collection will depend upon your interest in them. But, of the vast number, there are some which are easy to grow, hardy and beautiful, for these reasons they are universal favorites. The interest in one special flower such as the Iris or Peony or Delphinium now has a firm following in the United States. The desire to grow a great diversity of different sorts is gaining. There is a keen pleasure in growing some plants which are a trifle rare.

Perennials are plants which live for more than one year. Most of the hardiest sorts live year after year. They are necessary in the home grounds of anyone who likes a show of color through the seasons; they complete the planting after the shrubs are located.

WHERE TO PLANT—Perennials are well planted in beds, in wide borders, in front of shrubs, in rock gardens, around pools and for cutting purposes they can be planted in rows in the vegetable garden. They may be planted in clumps from 3 to 12 plants, in which case there are huge eyefuls of color at one time, or the plants may be set singly and the same flower repeated throughout the garden. In small perennial borders the latter method is preferable because with a proper choice of plants the border may be in bloom for nearly the whole Summer.



Phlox Border



Peony

PLANNING A PERENNIAL BORDER—In planning a Perennial border on paper aim to have a good lot of tall background plants at the back which shall bloom at various dates. Then plan for the best plants to edge the border. Lastly, fill in between with the medium tall perennials and ones with foliage that is not showy or persistent. Refer to the sketch on page 19 and the explanation of it and you will find that by so planning a border it will be more easily cared for than when planted in the common way.

Then as you plan remember to have colors which you like and which shall show in the border at all seasons.

PREPARATION OF SOIL—Choose open, sunny places for most perennials, although such sorts as are mentioned in the list on Page 45 will grow in partial shade. Keep the beds away from the roots of large trees which rob them of both food and moisture. The prepara-

tion of a perennial bed should be very thorough, especially as the soil cannot be well tended or much enriched afterward. If the subsoil does not permit sufficient under-drainage to prevent water staying on the surface, then under-drainage to the depth of at least two and a half feet will be necessary.

A first class perennial bed, suited to sustain a large variety of plants in vigorous growth, should have the ground made loose to a depth of at least two feet. A satisfactory method is to throw off the top soil, then dig over the subsoil and mix with it a liberal amount of manure and some bone meal or wood ashes. If the soil is a stiff clay, an application of about two inches of screened coal ashes, sand or commercial humus worked into the soil will keep it loose.

The top, if possible, should be good rich loam, well mixed with well rotted manure from the cow barn and put in a fine, pulverized condition. Keep the surface soil rich at all times, since many of the plants are shallow rooted and need a very mellow soil.

HOW TO PLANT—There is no safe rule for distances to plant perennials nor for depth. Generally speaking, perennials should be set about the same depth as they have been growing in the nursery. Plants with dense rosettes of leaves at the surface of the soil are sensitive to deep planting. Peonies refuse to bloom for several years if set over $2\frac{1}{2}$ inches deep. The bearded Iris root stocks should be just beneath the surface of the soil. Observation from year to year in a garden teaches many lessons about your own conditions. Some plants grow rank with you which are a trial with your neighbor and vice versa.

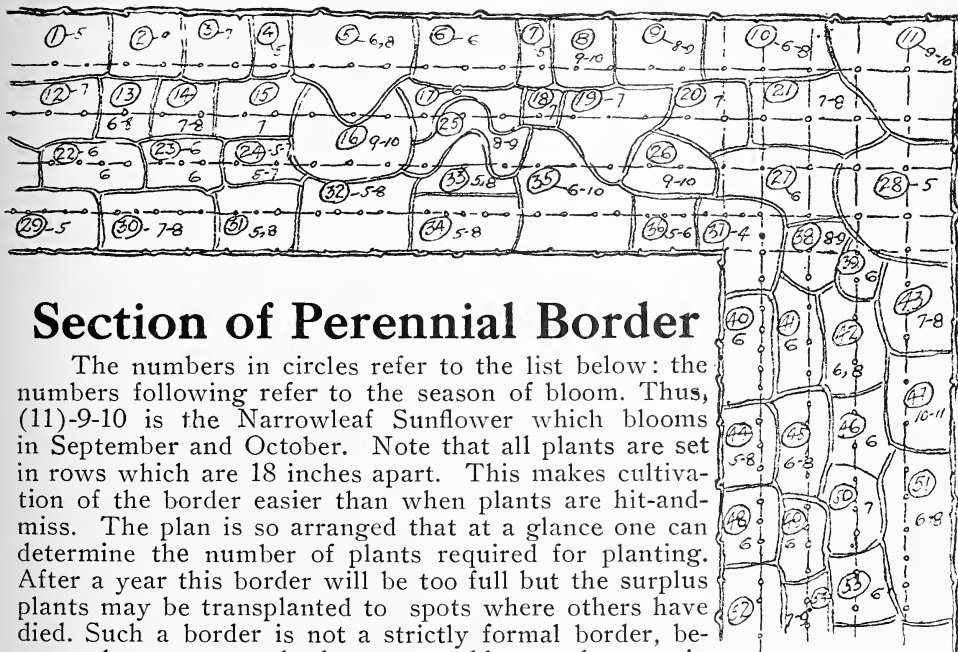
WHEN TO PLANT—Perennials may be planted in the Autumn as well as the Spring with certain exceptions. Do not transplant Japanese Anemone, Bergamot, Wild Asters and Plumbago in the Fall. Transplant



A Well Assorted Perennial Planting

Irises shortly after they have finished blooming, or up until September. Peonies are best purchased in September, Oriental Poppies are dormant in July and August and only transplant successfully during these two months.

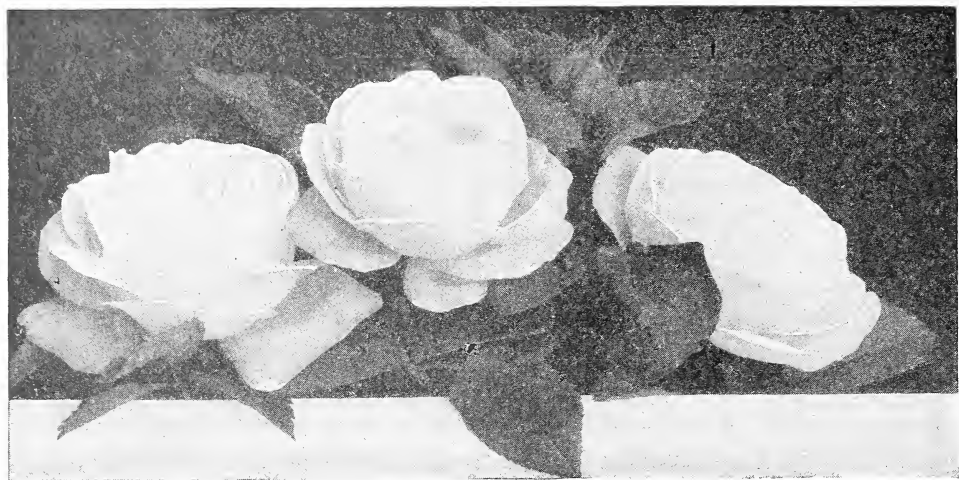
When the plants are received from the nursery unpack them at once. If the quantity be large the plants should be heeled in, in some shady spot, after having been well watered at both root and top. Be careful not to get the labels mixed. Plant at leisure, making the hole large enough to accommodate the roots when straightened out. Then fill the hole with soil well firmed, after which water. When the water has disappeared, finish filling with dirt. If the plants wilt during the day it may be well to shade with a shingle or an inverted flower pot for a few days. It is important that the flowers should be cut often, if allowed to seed the plants soon quit blooming.



Section of Perennial Border

The numbers in circles refer to the list below: the numbers following refer to the season of bloom. Thus, (11)-9-10 is the Narrowleaf Sunflower which blooms in September and October. Note that all plants are set in rows which are 18 inches apart. This makes cultivation of the border easier than when plants are hit-and-miss. The plan is so arranged that at a glance one can determine the number of plants required for planting. After a year this border will be too full but the surplus plants may be transplanted to spots where others have died. Such a border is not a strictly formal border, because the groups are broken up to add naturalness to it.

- | | | |
|--------------------------|---------------------------------|---------------------------|
| 1. Foxglove | 19. Babysbreath | 37. Mosspink |
| 2. Hardy Aster | 20. Hardy Phlox | 38. Torchlily |
| 3. Hollyhock | 21. False Dragonhead | 39. Wild-indigo |
| 4. Iris, Siberian | 22. Sweet William | 40. Rock Speedwell |
| 5. Hardy Larkspur | 23. Lupine | 41. Pyrethrum |
| 6. Maltese Cross | 24. Columbine | 42. Hardy Larkspur |
| 7. Iris, Bearded | 25. Clump Speedwell | 43. Purple-Loose-strife |
| 8. Helenflower | 26. Hardy Chrysanthemum | 44. Forget-me-not |
| 9. Marshmallow | 27. Canterbury Bells | 45. Coreopsis |
| 10. Hardy Larkspur | 28. Foxglove | 46. Peony |
| 11. Narrowleaf Sunflower | 29. Rockcress | 47. Tartarian Aster |
| 12. Phlox, Hardy | 30. Carpathian Harebell | 48. Snow-in-Summer |
| 13. Coreopsis | 31. Mountain-bluet | 49. Oriental Poppy |
| 14. False Dragonhead | 32. Everflowering Bleedingheart | 50. Torrey Bearded-tongue |
| 15. Gayfeather | 33. European Mint | 51. Hardy Larkspur |
| 16. Hardy Chrysanthemum | 34. Clove Pink | 52. Larpente Plumbago |
| 17. Peony | 35. Blanketflower | 53. Iris |
| 18. Bergamot | 36. Polyantha Primrose | 54. Balloonflower |

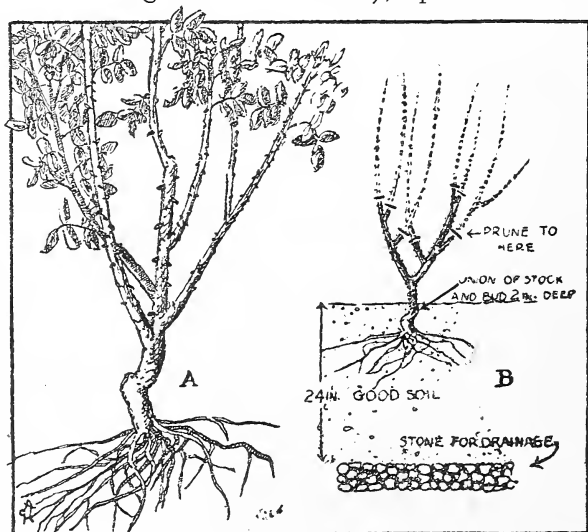


Roses

EACH new generation crowns the Rose as queen of flowers and a garden without Roses is rare. Year after year these favorites are being improved in size, color, form and profusion. Roses for various uses are being developed. We now have, among the climbers, ideal varieties for ground covers, for small trellises, and for covering the sides of houses. How our countryside would be improved if the roadsides leading to our villages were planted with roses. We have yellows as deep as Golden-glow and salmons and those "like sunshine on burnished copper." We have almost monthly bloomers, and sorts hardy enough for the coldest climates. Each year more and ever more roses are being planted, and yet we never have enough roses.

WHERE TO PLANT—The ideal site for a rose garden is a spot airy but sheltered (especially from the biting winds of winter), open to the influence of the sun, all day if possible, and quite free from the influence of large and growing trees. A southern exposure is best, but if this cannot be had, select a place that receives the morning sun. Never plant roses on the north side of a building, hedge or windbreak. Low ground is more subject to late frosts than the adjacent places only a few feet higher and the late frosts are to be dreaded after the young shoots have started.

SOILS — Roses prefer heavy soils but desire perfect drainage. The beds



How to Plant Roses

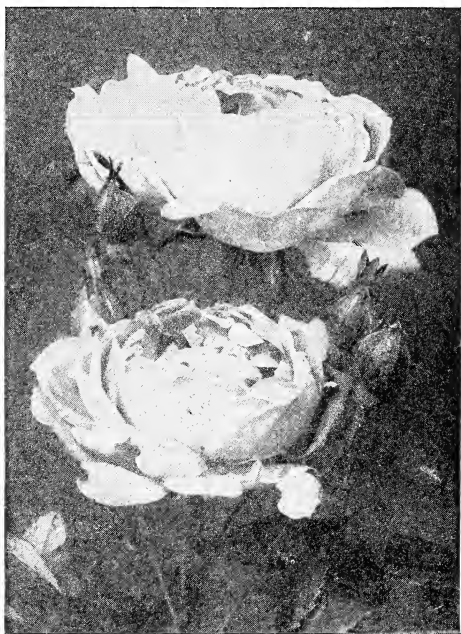
should be dug out to a depth of three feet and a foot of broken stone, bricks, cinders, or a drain tile placed in the bottom so as to permit of a free passage of water. This should be done in the Fall and the soil allowed to settle through the Winter. Enrich the soil with one-quarter its bulk of well decayed manure (preferably cow manure).

TIME TO PLANT — As a rule, Spring planting of roses gives the most satisfactory results in the end. The Hybrid Perpetuals and Rugosas should be planted just as early as the soil is suitable. All others are best planted when the danger of sharp frosts has entirely passed. Potted roses may be planted later when the weather conditions are settled.

When roses are unpacked, if they seem to be shriveled, soak them in water and bury them completely (cover up roots and branch with moist earth) in a trench, after which soak the ground with water. In a few days uncover and they will be revived.

The first rule for planting is to wait until the soil is in good condition. The roses may be immersed in pails of water or dipped in mud, to prevent the roots from becoming dry while the planting is being done. They should be planted deeper than they were previously set.

Before planting, each plant should be examined and all broken roots cut off with a sharp knife. A hole large enough to accommodate all the roots (without crowding) should be made for each plant. On budded roses, the crown or point where the bud was inserted, should be placed two



Lady Alice Stanley



A Rose Hedge

inches below the surface of the soil and all the roots spread carefully, inclining downward a little. Cover the roots with fine soil, free from fresh manure, water well, and when the water has disappeared, fill in the remainder of the soil and pack firmly. This may be done by tramping around the plant.

CULTIVATION—Keep the soil around the roots stirred all summer, but do not cultivate deeply. Keep a sharp lookout for suckers that shoot up from below the graft. As soon as these appear they should be removed. (Suckers are shoots that come up from below the bud or graft, and are, therefore, seedlings and will not have perfect flowers or will not be the kind desired). They may be distinguished from the proper kind of strong shoots by having, generally 7 or 9 parted leaves, more thorns and an entirely different appearance than the characteristic branches of the roses upon which it grows.

To enrich the soil as well as retain the moisture, a mulch of decayed manure may be applied in July or August.

PRUNING—The pruning of hardy roses, climbers and non-climbers, should be accomplished by the last of March. Tender roses should be pruned just before commencing to grow in the spring. In pruning, cut out all the dead wood and weakest shoots first. Where two limbs cross and are liable to rub each other, remove one of them, remembering to keep the center of the plant as clear as possible to admit the circulation of air.

WINTER PROTECTION—It is usually well to give the roses some protection during the winter months. A neat and effective way to accomplish this, is to place a twelve-inch poultry netting around the bed and fill with leaves. Evergreen boughs make a good protection, but are difficult to get at most places. If roses are mounded with soil a foot deep, they will usually pass through the winter unharmed in spite of the fact that the branches above the mounded soil are frozen. In the coldest climates the climbers are removed from the supports and the branches completely buried.



Climbing Rose Border

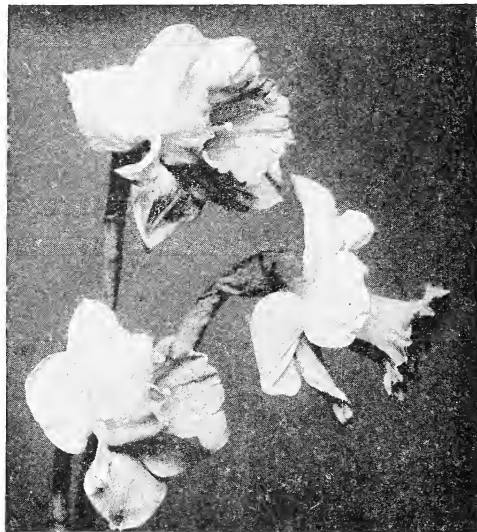
Bulbs

WHEN Spring is in the air we look for the tiny spears of green from our bulbous flowers, and how great is our disappointment when we have neglected to plant more of them in the Autumn. They furnish us our first flowers and they are so gorgeous that they are general favorites.

WHAT TO PLANT—There is such a vast array of bulbs that he who has the space is tempted to try them all. The beginner can not plant too many especially of Tulips and Narcissus.

EARLY SPRING FLOWERS—For the earliest Spring, the Snowdrop starts the season coming through the snow. Then comes the Winter-Aconite (*Eranthis hyemalis*), a yellow gem. Following these we usher in the Crocus and the Siberian Squill. By this time Spring is surely with us.

HYACINTHS—The lover of fragrant Hyacinths often is provoked to find that they do not persist in his garden. Hyacinths are more exact-

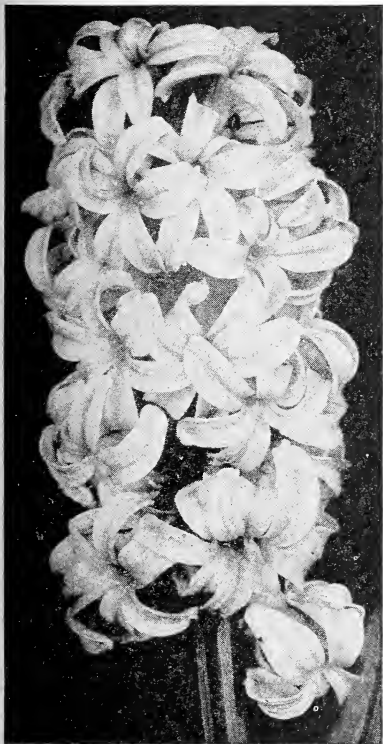


Narcissus

ing in their requirements than the other common bulbs. They tolerate no manure and prefer sand. They do better if lifted each season as soon as they have died down and stored in a cool cellar until autumn, although they bloom well for several seasons if left undisturbed.

NARCISSUS AND DAFFODILS—These hardy favorites thrive and multiply in spite of neglect more than most other bulbs. They may remain in one place four or five years or until they become crowded. They multiply rapidly and are especially attractive when naturalized on the lawn.

TULIPS—The wonderful pageant of the various tulips is a perennial garden event. Starting with early single Tulips there follows the double Earlies, the Darwins followed by the Cottage or May flowering sorts. The blooming season covers four or five weeks where selection is made of the various types. The Breeder or Art tulips are becoming very popular as their peculiar blending of color is very attractive, whether used for landscape work or cut flowers.



Hyacinth

LILIES—The true aristocrats of the garden are the Lilies with a grace and beauty all their own. Lilies should be planted as soon as the bulbs can be obtained in the Fall, as the growth will be stronger and better than from the same bulb planted in the Spring. Lilies, more than most bulbs, suffer from exposure to the air. Where possible afford protection from strong winds.

Whenever and wherever the Lilies are planted, consider the comparative permanence and do not plant where they are subject to disturbance or surface cultivation.

The bulbs should be planted from 3 to 8 inches deep according to the kind of Lily. Some Lilies produce roots

not only from the base but also

at the top of the bulb. Such Lilies as the Regal, the Speciosum, the Goldbanded and the Elegans group should be set 8 inches deep because of this fact. The Madonna Lily and a few others produce no roots from the stems, they must be set only 3 inches deep.

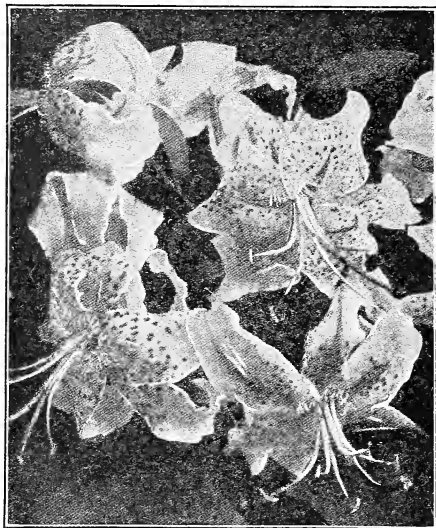
Furthermore, transplant Madonna Lilies in August, all others later. in the fall.

It is well to have some good, sharp sand at hand and put some in each hole to form a sand base upon which the bulbs can rest. Some growers even envelope the whole bulb in an inch of sand. This is a protection from insects and obviates stagnation of moisture around the bulb.

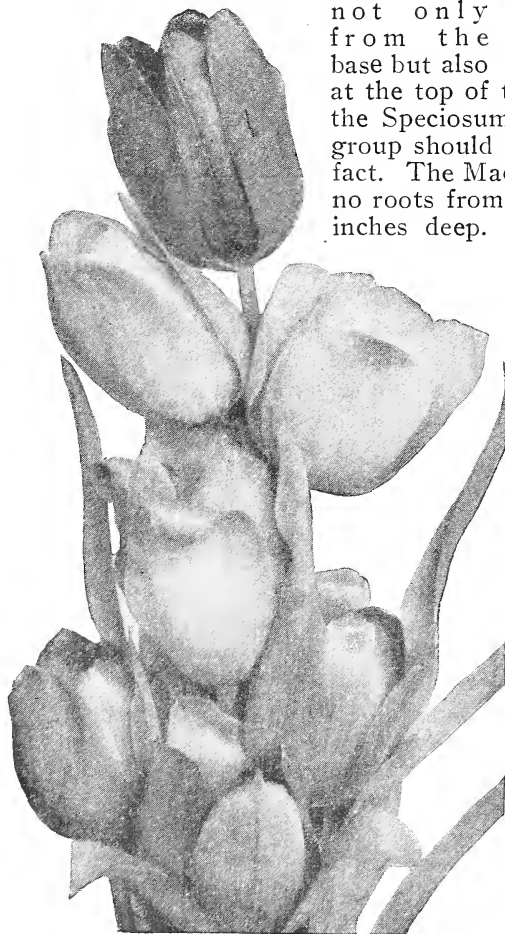
As a rule, Lilies like a rich soil, but it seems to be the general opinion of all who have experimented in growing them, that the manures (particularly fresh manures) should not be allowed to come into direct contact with the bulbs. Many advocate the application of all manures as a mulch, letting the rains carry down the fertilizing ingredients.

SUMMER FLOWERING

BULBS — The bulbs which bloom in Summer and Fall are



Tiger Lily



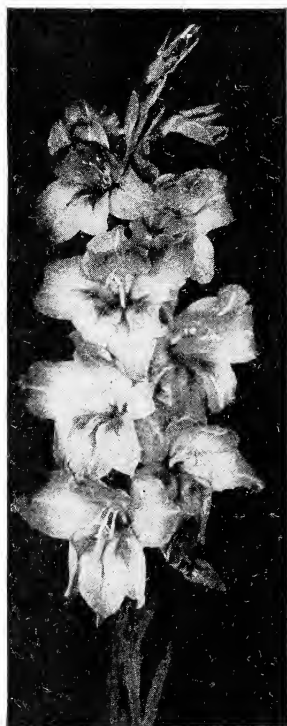
A Bouquet of Tulips

planted in the Spring and are not hardy. None of them should be set out until the soil is warm in the Spring and then they must be dug at the approach of cold weather. They should have a sunny location, in rich, loamy soil, in which case they will be almost sure to bloom.

CANNAS—The most commonly used bulbous plant for summer decoration is the Canna, which produces good effects even when not in bloom. There is a wide choice in Cannas as they range in height from one and a half feet to six feet. The foliage also varies, being ordinarily green, but there are varieties with deep bronze foliage. The Cannas bear a profusion of bright red and yellow flowers which are very showy, also shades of pink and white.

GLADIOLUS—The glorious Gladiolus is one of the most satisfactory summer flowering bulbs, but if used in the border needs some low growing plant in front of it. The bulbs should be planted at least 6 inches deep and four or five inches apart, and if used for bedding purposes the rows should be about ten inches apart, so that in two or three weeks another planting may be made between the original rows. This will insure a succession of bloom until almost time for frost. There is a great diversity of brilliant colors and beautiful markings in the Gladiolus, making them excellent for cutting.

CALADIUM—One plant which frequently creates some rivalry between near neighbors, who try to see which can grow the largest leaves, is the Caladium, (Elephant Ears). Bulbs of this plant may be put into the ground as soon as danger of frost is past. A moist, rich soil is best. It is impossible to give these too much food. Mulch the soil with four or five inches of well decayed manure and during the dry weather the soil should have frequent soakings.



Gladiolus



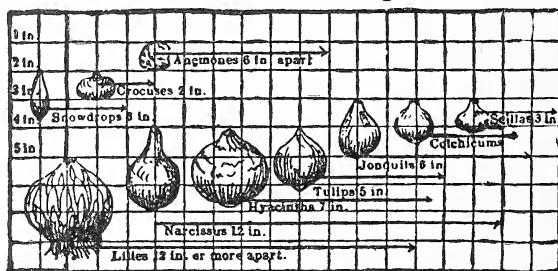
Caladium—Elephant's Ear

DAHLIAS—The Dahlia and the Gladiolus vie for the honors but the Dahlia is the supreme Autumn flower whereas the newer Gladioli are earlier in season. In brief terms the Dahlia needs cool nights and hot days and thrives best when given quantities of water, but the soil should be so porous that the water passes quickly through it. They are best grown to one shoot on a plant which is pinched back to 6 inches in its early growth. Such pinching causes branching. Farther pinching will eliminate staking.

WHEN TO PLANT—The amateur bulb grower should place his order early in the Fall, say September, so that it may be filled as soon as the bulbs are received from Holland. They may be planted any time from the first of October until the ground is frozen. The first work in preparing the bed for bulbs is to cover the surface with a good coating of well rotted manure; then spade up the earth deeply. Plunge the spade or fork down to the full depth and turn up the earth from the bottom. After spading, rake down the earth from the center to make the bed perfectly level. A dribble may be used so as to get all the bulbs planted at the same depth. The only objection to this is that it sometimes compresses the soil too much, leaving a hollow place underneath the bulb. This should be filled with coarse sand before the bulb is set. Close contact with the soil is essential. Standing water at the base of the bulb will cause the roots to decay. Generally speaking all the Dutch bulbs thrive better for having some sand mixed with the soil.

DEPTHS AND DISTANCES

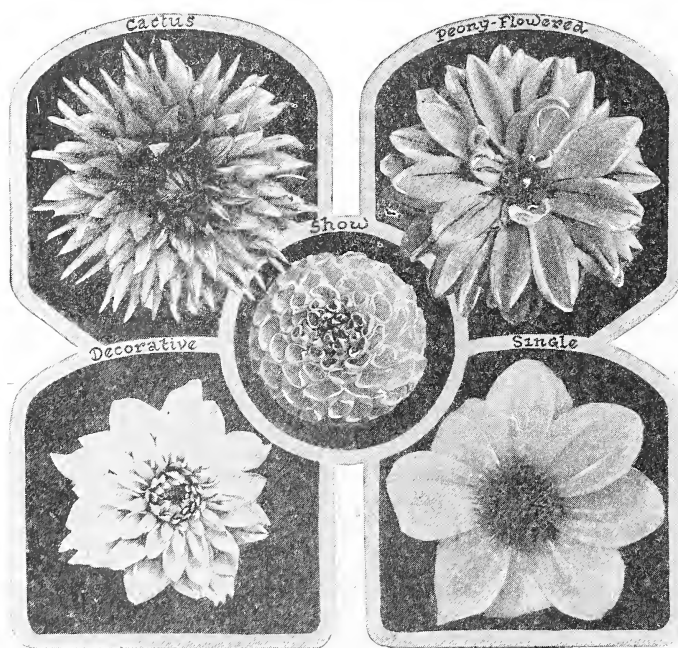
—Hyacinths, daffodils and tulips should be planted five to six inches apart and about four inches deep. The Poet's Narcissus, and some others with comparatively small bulbs, need to be only four inches apart. Snowdrops, crocuses and Scillas and other small bulbs may be set two and a half to three inches apart, and about two and a half inches deep.



Planting Guide

MULCHING—After the ground has been frozen in the early Winter,

give the bulb bed a winter protection of leaves or strawy manure, or some other light material which can be prevented from blowing away by a covering of evergreen boughs. This mulch is to prevent alternate freezing and thawing; therefore, do not place it on the beds before they are frozen. The protecting material must be removed in the Spring as soon as all danger of frost is past. Beds of bulbs in masses, left over from year to year, should have a coating of manure each fall.



Types of the Five Leading Dahlias

Climbing Plants



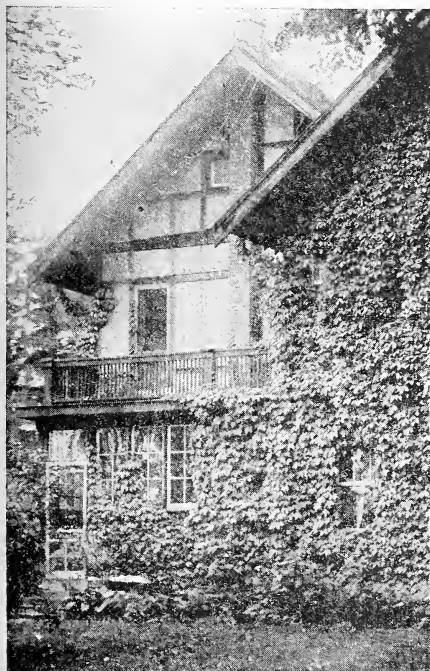
VINES probably lend themselves to a greater variety of uses than any other plant, and offer a splendid opportunity to anyone with a little taste and ingenuity, to carry out many schemes of his own devising. Their chief value lies in their ability to quickly cover trellises, pergolas, shut from view unsightly objects, such as out-buildings, laundry yards, and shading porches. They aid greatly in harmonizing the house and the landscape, cover buildings and such objects as no other plants can, and break up the sharp contrast between building and ground. We are generally anxious to grow vines on fences as soon as they are built, because they always soften the lines. Note how Nature decorates the fences, brush piles, rock heaps. Neatly trained vines are more interesting than when grown into a tangle.

WHAT TO PLANT—Two-year-old plants are best for use in home planting. Each situation will need different vines of which lists are given on page 46 telling which are good for shade, which are evergreen and those growing the fastest. However, we cannot pass by without mentioning some outstanding good vines you will want to use.

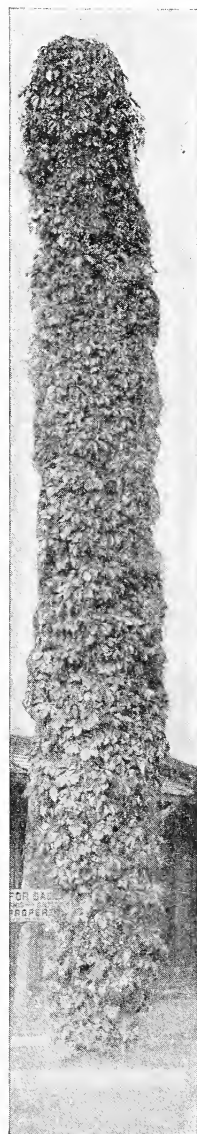
BOSTON IVY—The best known and most useful of the foliage vines are the Boston Ivy or Japanese Ivy. These are the most suitable for brick or stone walls, because of the disk-like tendrils on the young growths by which they hold on securely and are supported to any height. The Boston Ivy is perfectly hardy, thrives in any aspect, north,

east or west, and succeeds as well in smoke and dirt of cities as in cleaner atmosphere. After once established, it needs no attention except cutting back where it encroaches on windows and doors. The leaves appear early in Spring, showing beautiful tints of green and red-brown. In Autumn they turn bright gold and scarlet and are retained very late in the season.

VIRGINIA CREEPER — The Virginia Creeper belongs to the same family, but does not hold so firmly to walls as the Boston Ivy trailing much more freely and being better



Boston Ivy



Virginia Creeper
on Unsightly Pole

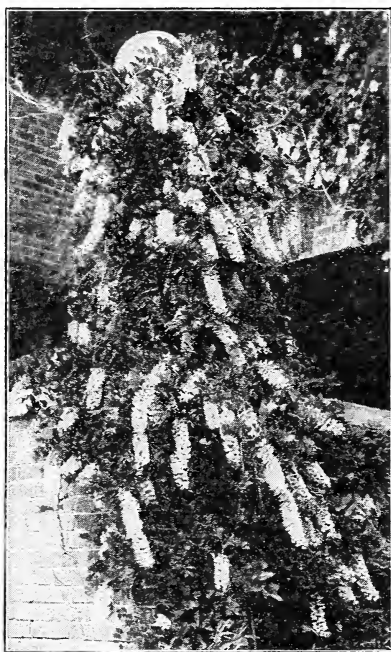
adapted to covering boulders, banks and low walls. When possible, it is well to plant at the top of a wall and let it trail downward rather than climb upward. The leaves turn to bright colors in the fall and the blue berries are favorites of the birds.

ENGLISH IVY—The English Ivy is the only distinctly evergreen vine that is suitable for high walls. It is hardy as far north as New York, but does better in a northern exposure, or where it will be protected from the sun in winter. In planting, treat as an evergreen shrub. Plant eight or six feet apart and supply them plentifully with water the first summer or until well established. This vine has few enemies.

EUONYMOUS—Another evergreen vine that is worthy of a more prominent place on the home grounds, is the Euonymous radicans. It is frequently seen in masses, used as a low shrub for covering bare spots and for this it is well adapted, but also possesses great merit as a true vine for walls, trees and rocks. It clings as closely to a stone wall as the English Ivy, and the small, shiny, green leaves are about an inch across. There is also a variety with variegated leaves, and one with larger leaves, variety *vegeta*, which fruits freely. The variety *minima* or *kewensis* has leaves scarcely one-half inch long and is useful for very low stone walls or for boulders. These vines are quite easy to establish when planted in early Spring in rich soil.



Clematis Jackmanni, intense blue flowers



Wisteria Bloom

WISTERIA—Among the most useful of hardwood vines requiring support is the Chinese Wisteria. When once established this vine makes a good growth, with but little care. Never prune until after the blooming season is passed, or the bloom stems will be removed. Many persons wonder why Wisterias do not bloom. They must:

1. Be four or five years old;
2. Be trained horizontally;
3. Be pruned a little each year; and
- if the vines are old and do not bloom
4. Prune the roots and tops rather severely.

CLEMATIS—Besides the Wisteria for bloom there are other vines of great usefulness, namely, the Japanese Clematis (*C. paniculata*) with its showy masses of white flowers in late Summer. There are larger flowered sorts

such as Jackmanni with its purple flowers four to six inches in diameter, and Henryi with white flowers. These sorts need a rigid support because their branches are fragile. Give the support, especially at the surface of the soil by tying the main shoots to stakes. They prefer to have their roots shaded and should be planted at least 3 inches deep. They require abundant water.

SILVERLACE VINE—Lesser known, but of great beauty, is the Silverlace Vine (*Polygonum auberti*), which produces a luxuriance of bluish white flowers for a longer season than the Japanese Clematis. It grows very rampant and may be used on high pergolas and porches but not on small trellises nor low fences.

HONEYSUCKLE—For dense shade, for covering walls and rougher portions of the garden, the Honeysuckles are superior to all else. They grow quickly, are not particular as to soil and produce an abundance of very fragrant flowers through a good part of the season. Though they are not particular as to soil, like any other plant they respond quickly to good treatment. When once planted they require but little care and none of them, except the Coral Honeysuckle are subject to attack of insects or disease. Plant lice are apt to infest the Coral Honeysuckle. Among the best is the Hall Honeysuckle which is nearly evergreen and blooms profusely in the Fall. The one with variegated foliage as well as the one with reddish flowers blooms all summer.

While climbing roses are not vines in the true sense of the word, they are so easily tied and trained and are so effective that they need to be so considered.

WHEN TO PLANT — The same seasonal practice can be followed in planting vines as in other stock, but when necessary to plant in the Fall, it is best to protect the vine during the Winter with five or six inches of earth and then train it up in the Spring.

HOW TO PLANT — The rank growth of most vines necessitates a liberal amount of food and a deep preparation of the soil in planting. The best way to apply the manure so that the plants will get the most benefit of it is by trenching or subsoiling; that is, by digging out a trench about two feet deep and putting some of the top soil in the bottom, then a layer of well rotted manure and another layer of soil, until the trench is full.

Watering vines is one of the most important points in their growth. If the season is dry, the plants should be watered at whatever season of the year they make their growth. This varies with variety. When watering, soak the ground thoroughly and it will not be necessary to repeat the operation so often.



Hall Honeysuckle

Permanent Cemetery Planting

The problem of the cemetery lot is always difficult, each community has its own rules but always the problem is the same. Plants must be used which can tolerate some neglect and lack of cultivation. Some cemeteries are cool, restful parks and others are like gardens. In either case they can be beautiful or a wilderness of incongruous plant materials. Even in cemeteries of perpetual care the lot owner will do well to feed his plants and give them such culture as the plants demand.

Evergreens For Individual Lots

Arborvitae, American Pyramidal—*Thuja occidentalis pyramidalis*.
 Arborvitae, Golden Oriental—*Thuja orientalis (Biota) nana aurea*.
 Redcedar, Cannart—*Juniperus virginiana cannarti*.
 Redcedar, Schott—*Juniperus virginiana Schottii*.
 Redcedar, Silver—*Juniperus virginiana glauca*.
 Wintercreeper—*Euonymus radicans*. To grow upon large monuments.
 Wintercreeper, Bigleaf—*Euonymus radicans vegetus*.
 Yew, Canada—*Taxus canadensis*.
 Yew, Dwarf—*Texas cuspidata (brevifolia)*.

Small Trees For Individual Lots

Cherry, Japanese—*Prunus triloba*.
 Crab, Bechtel—*Malus ioensis var. bechteli*.

Dogwood, White and Red—*Cornus florida and rubra*.
 Plum, Purple—*Prunus pissardi*.
 Redbud—*Cercis canadensis*.

Shrubs For Individual Lots

Aralia, Fiveleaf—*Acanthopanax pentaphylla*.
 Barberry, Japanese—*Berberis thunbergii*.
 Bladder-senna—*Colutea arborescens*.
 Elaeagnus, Cherry—*Elaeagnus longipes multiflora*.
 Goldenbells—*Forsythia fortunei*.
 Honeysuckle, Fragrant — *Lonicera fragrantissima*.
 Hydrangea, P. G.—*Hydrangea paniculata grandiflora*.
 Jetbead—*Rhodotypos kerrioides*.
 Pea-tree, Siberian—*Caragana arborescens*.
 Privet—*Ligustrum* various especially Regel.



Home Garden Fruits



TRUE home lovers for ages have planted fruit in their domains be they large or small. There is great personal satisfaction in being able to gather one's own apples, peaches, grapes and strawberries. Here is independence and satisfaction.

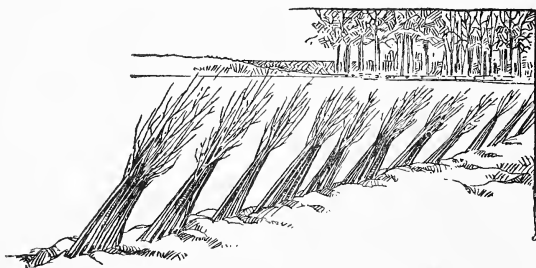
WHAT TO PLANT—Buy good nursery stock, not bargains. A first-class tree is one that is healthy, well grown, well dug and free from disease and injurious insects. Other things being equal, it is best to select a tree one or two years old. Older trees may be successfully planted, but the younger ones are more satisfactory, are handled more easily, suffer less in transplanting and are more profitable in the long run. There is an increasing demand for planting one-year-old apple trees, because:

ONE YEAR OLD TREES

1. The one year tree, or whip, gives one a chance to form the head of the tree at any desired height, also to build exactly the kind of a head one may desire. This alone would be sufficient reason in the opinion of many growers for choosing the one-year-old tree.

2. The tree which has stood in the nursery row only one year can, without doubt, be transplanted easier and with more assurance of its living than one which has grown for two years in the nursery row, as the root system of the one-year-old tree will not be disturbed as much as those of the older tree.

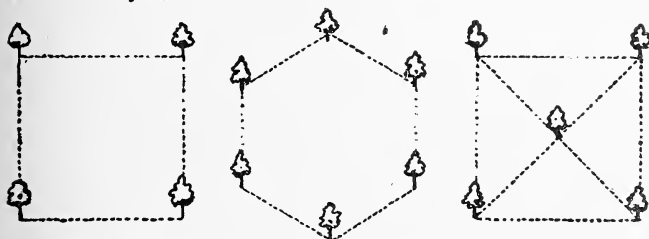
3. For this same reason, the one-year-old tree will get a better hold on the soil than if it had stood two years and then had its anchor roots disturbed.



Showing Method of Heeling-in Trees

4. The one-year-old tree will bear fruit just as soon as the older tree on account of its becoming established quicker after transplanting.

5. They may be bought for less money, this makes a difference with many; however, the price should be the last consideration, quality always first in any tree.



Plans For Planting Fruit to Good Advantage

System	Distance Apart		No. Trees per Acre	
	Perm't	Fillers	Perm't	Perm't & Fillers
Quincunx	30 (21.2)	15 ft.	97	194
Square	30 ft.	15 ft.	48	194
Hexagonal	30 ft.	15 ft.	55	226

DWARF FRUITS

—For small home grounds dwarf fruits are highly advisable. The fruits are the same as from standard sized trees but they do not take so much room. They come into bearing earlier than standard trees. As part of an ornamental planting they are perfectly in harmony.

When to Plant

THE planting time depends upon the latitude, but in most states late Fall is fully as successful as in early Spring. In the vast middle western region spring comes on so suddenly that when planted in Spring they barely get a hold of the soil before hot weather arrives. It is advisable to plant in the Fall in this region.

CARE UPON ARRIVAL

HOW TO PLANT.—Never allow the trees to remain at the express office or depot over night. As soon as they are received, unpack them, (unless they are frozen in which case allow them to thaw out slowly in a cool cellar) shake out the packing material, dip the roots in a thin mud, and either heel them in or plant at once. To heel them in have a trench dug deep enough to receive the roots of the trees and cover with earth, shaking well around the roots so no air remains to dry them out. This is done just to keep the trees in good condition until a suitable time to set them. They are dipped in mud so as to moisten every part as the mud clings to the roots.

PLANTING

It is rarely advisable to merely dig holes in the sod to plant the trees; much better results will be obtained if the whole area is plowed. Should there be a hard stratum of earth or rock underlying the surface soil, it is best to break it with a sub-soil plow. The holes should be large enough to accommodate all the roots when properly spread and allow some extra space for their growth. The tree when planted should be a little deeper in the soil than it was in the nursery row. This can be determined by the color of the bark.

PRUNING

Much will depend on the proper treatment of trees at the time of planting. During the digging and the handling of the trees some of the roots are sure to be bruised or broken. These must be all trimmed with a sharp knife with a slant on the under side.

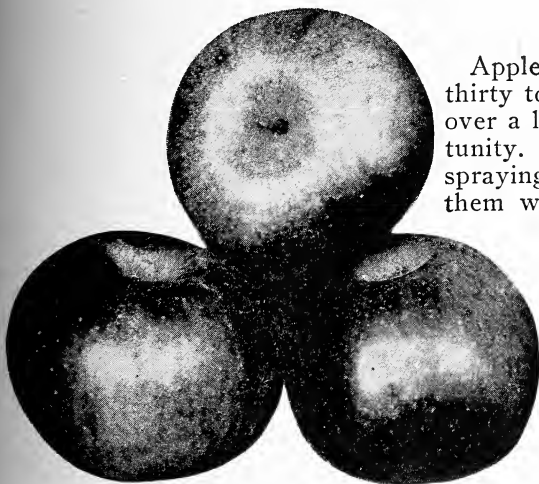
The top should also be pruned. (That is, trimmed with a sharp knife). There are some principles which can be explained, but many points can only be learned by experience. A tree can be trained to a wonderful extent, and he who prunes intelligently will be sure of good results.



1. The one-year-trees (A) are cut back 30 inches or one-third the height.
2. The next year the branches start as shown in B. Four or five are selected to form the main head of the tree. The following Spring the branches are cut back to 3 or 4 buds (2) and the leader 18 inches or one-third.
3. Sketch C shows the growth from the buds left in sketch B and shows the formation of the second head. The branches on the second head (3) and the leader are again pruned back about two-thirds, depending on growth.
4. The result of such pruning is to produce a three storied tree with branches advantageously placed. No pruning is done after this for some years, except to remove interfering branches.

When the trees are planted decide the height at which the top or head is to start. Think first, of the best possible shape and size. For most practical purposes and for most trees, a low and open head is desirable; low, because it can be worked better, and open so the light and air can reach all the leaves and fruits. A limb never gets any higher from the ground than it is when it starts. Some trees such as the peach trees, have to be cut back to a switch.

Two-year-old trees will have the branches formed. Refer to the sketch, and if the instructions for forming the head are followed, the trees will carry heavy loads of fruit without breaking.



Apples

Apple trees should be planted from thirty to forty feet apart, since they feed over a large area if they have the opportunity. Plenty of room is also needed for spraying, cultivating and driving around them with wagons. Keep the trees far enough away from the boundary fences, and never plant nearer than forty feet to a thick wood or windbreak.

Dig a hole large enough to accommodate all the roots without bending any of them, and deep enough to permit the tree to stand slightly deeper than it was in the nursery row.

After some of the fine surface soil has been scattered in the bottom, place the tree in the hole after it has been previously well dipped in a thin mud, carefully spread out all the roots and cover with a few inches of the top soil, pressing this firmly around the roots with the feet. Finish filling the hole with soil and tramp down again. If the soil is dry it may be well to water the trees. It is well to put a mulch of straw manure around each tree to partially prevent the evaporation of the moisture. The main point in planting is to take enough time. It is cheaper in the end to spend plenty of time in planting than to have to reset because of carelessness. Manure should never come in contact with the roots of the tree, but put a good supply on top of the ground after the tree is planted. The rain on this will reach it and properly supply the necessary fertilizer for the tree.

CULTURE—The orchard should be kept free from grass and weeds, and no crops should be sown in it except those which do not exhaust the soil. Cultivate well in the early part of the summer and late fall.

PRUNING—If trees of bearing age do not bear fruit, it is well to prune such trees slightly during July or early in August. Some of the small limbs may be cut out or the ends of the outer branches may be trimmed back. This will help the buds to form for next year's crop of fruit. Investigations in pruning fruit leads us to the conclusion that trees have generally been pruned too severely. The present practice is to merely remove objectionable branches and keep the center open.



Firming Dirt Around Root.

Pears

Pears will grow on almost any soil, but will do best on a high elevation, provided the subsoil is not too wet. Wherever this is the case the ground should be thoroughly under-drained. In very poor soil a heavy top dressing of manure in the fall will be of advantage. Standard pear trees should be planted twenty feet apart each way, the dwarfs sixteen to eighteen feet apart.

Pears are subject to fire blight, a disease controlled only by cutting back the branches beyond the point of injury.

Do not allow pears to ripen on the trees. The highest quality results from gathering fruit ten days before it is ripe. Winter pears are best stored before the heavy frosts.

Cherries

The soil best adapted to cherries is a light loam or sandy subsoil, although they will also do well in any situation that is well drained.

Cherry trees are prone to grow too fast splitting the bark on trunk or limbs and doing other damage. For this reason and because the fruit ripens early, cultivation should not continue after the first of June.

Never mulch the trees, nor use much, if any, stable manure. Nitrate of soda or any fertilizer containing nitrates is liable to do more harm than good. This

of course depends upon the soil. In general, cherries will thrive best when the ground is seeded to grass and kept this way. About a foot around each tree, the ground should be dug up so the grass will not grow thick around the base of the tree forming a harbor for mice. They are very apt to girdle the trees and spoil them.

The less cherry trees are pruned the better for them. It is necessary to cut back the trees at the start and shape the head while growing. Sour varieties of cherries are freer from insects and root diseases.

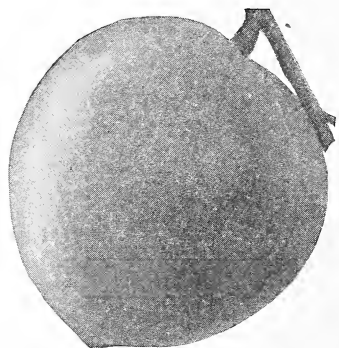
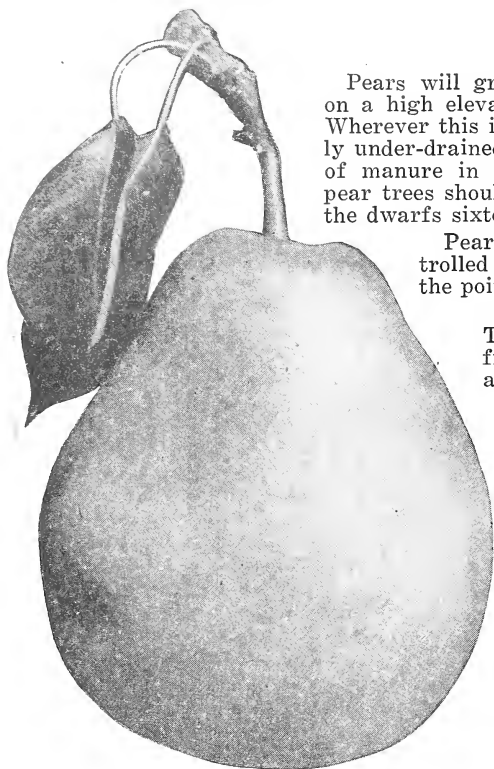
Peaches

Locate a peach orchard on a northern slope as this results in less frost injury in Spring. The very best soil for the peach is a rich, deep sandy loam; next to this is a strong, mellow loam, then a light, thin, sandy soil; the poorest being heavy, compact, clay soil. Peaches should be set sixteen to eighteen feet apart each way.

The important points in peach culture are: First, keep the ground clean and mellow; second, keep the heads low (the trunk should not exceed two to three feet in height); third, prune early in spring shortening the shoots of the previous year's growth.

Peaches must be cultivated. The soil must receive such treatment as will enable it to provide enough moisture, sufficient available plant food, and earth fine enough to supply food for the roots. The time to begin cultivation is a year or two before the trees are planted. Bearing orchards should not be plowed in the spring, until after the blossoms have dropped. If a heavy mulch is placed about the trees after the ground is frozen it will retard them in the early spring and often insure a crop of peaches.

Cut weak shoots back, about one-half, and strong ones about one-third; but see that there is left a sufficient supply of fruit buds. Sickly and superfluous branches should be cut out altogether. The fruit is borne on branches of last season's growth, hence the necessity of keeping a good supply of vigorous annual shoots all over the tree.

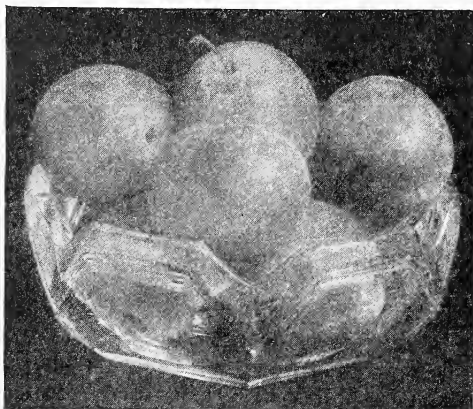


Plums

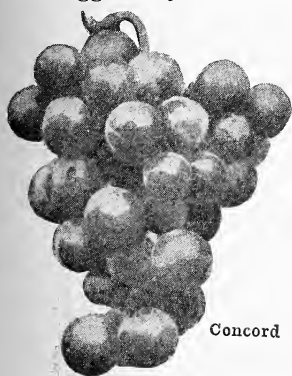
Plums are more vigorous, healthy and productive in a clay loam, or heavy loam, than in a light soil, although the Japanese varieties thrive on lighter soil than would be required by the other species.

The work to be done on a plum orchard is much the same as with the cherry, peach or apple. All plums must be pruned, though some kinds require more pruning than others. Nearly all kinds require tip pinching. Fruit is borne on wood two or more years old. Keep the head open so that light can get in, and see that the bearing wood is cut back far enough, so that after a reasonable amount of trimming is done, it will prevent the trees from breaking with their loads of fruit.

The worst enemy of Plums is the curculio, a beetle which lays its eggs on the fruit when it is the size of a pea. The young, after hatching, eat their way into the fruit. It can be controlled by spraying the trees with arsenate of lead just as the petals fall and again ten days later. Spread a canvas under the trees at the time the beetles lay their eggs and jar them from the branches and the insect is at least partially controlled.



Delicious Plums



Concord

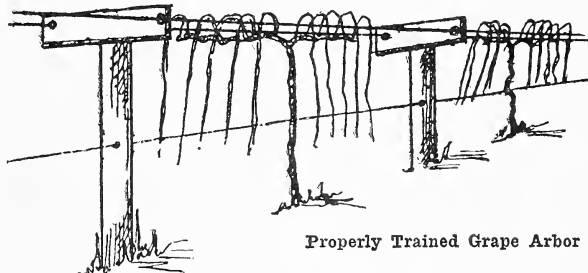
GRAPE PRUNING

Grapes are pruned by various methods but in each case the principles are the same. The fruit is borne on the long canes produced each spring. To produce quality fruit each of these canes should be pruned each winter so that there remains only one or two eyes or buds on each stub. The most convenient method is shown in the sketch. The young plant is trained to one shoot

Grapes were never more popular than at present. They are connected with the histories of most countries, growing all over the world.

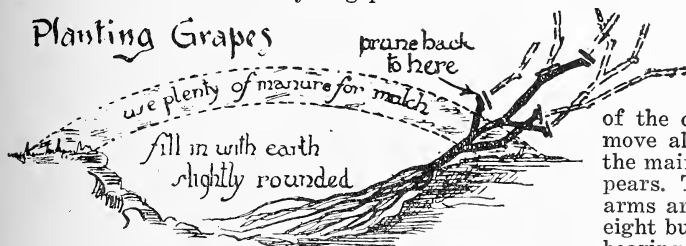
Thoroughly work the soil before planting and dig holes to receive the roots. Roots should be laid down and spread out—don't plant deeper than from eight to ten inches. Cultivate all spring and until mid-summer, otherwise growth will not be sufficient.

Grapes



Properly Trained Grape Arbor

Planting Grapes



until it reaches the top of the support, to which it is tied. The next year two canes are allowed to grow from the top, to form the framework of the canopy-like growth. Remove all growth that starts on the main trunk as soon as it appears. The third year the cross-arms are pruned back to six or eight buds. From these buds the bearing shoots are produced and

are allowed to trail over the lengthwise wires which greatly increases its fruiting.

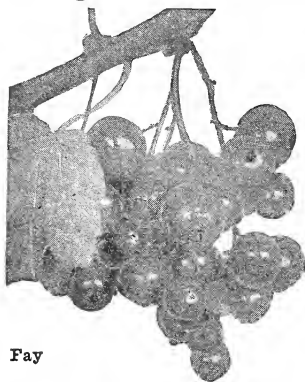
The use of grapes to produce an ornamental effect in the garden is to be encouraged; in such cases the training will depend upon the sort of arbor or trellis erected.

Quinces

The quince is a highly ornamental fruit tree and when properly trained will produce a very symmetrical tree. As quinces are becoming scarcer on the market, it is a great pleasure to be able to grow your own.

They will grow well in almost any soil, but succeed best in a heavy, clay loam. The average hillside or hill top is too dry for best results. Underdrain a good, damp soil and it will grow fine quinces, both trees and fruit. The roots lie close to the surface, so do not cultivate deeply.

Plant them ten to twelve feet apart. Prune so as to have short trunks and round, shapely, well branched heads. Fruit is borne on shoots of the same year's growth, which grow from wood at least two years old.



Fay

October or November, or just before growth commences in the spring.

The worm which descends upon the plants and removes all the leaves may be controlled by spraying the plants with arsenate of lead in early spring or dusting with hellebore if the fruit is nearly ripe.

Preferred Varieties of Currants: Cherry, Fay's London Market, Red Cross, Wilder, White Grape.

Currants

Planted in the garden currants should be four feet apart and may be mulched with sawdust. The currant is not particular as to the kind of soil, but the richer the soil the larger the berries. The same general instructions which were given for planting trees will apply to currants.

Pruning is simple but important. Fruit is borne on both young and old wood, but the best is at the base of one-year-old shoots. The younger the wood the finer the berries, but a fair supply of old wood must be left to insure productiveness. From three to five stems is advisable and these should be frequently renewed. No wood over three years old should be allowed to remain.

Currant bushes may be kept in bearing for many years with good care, liberal feeding and the continuous renewing of the wood. This pruning may be done in

Gooseberries

Gooseberries require about the same treatment as Currants, and are at home in heavy clay soils. They prefer a more moist climate in Summer than is found over much of the United States. As they are surface rooting, refrain from cultivating in Spring, and keep the plants mulched deeply with coal ashes. Prune in late Summer after the fruit has been gathered, removing some of the oldest wood each year.



Planting Currant

Raspberries and Blackberries

Raspberries and Blackberries resemble each other in their general culture needs. The heavier soils are favorable to the Black Raspberries and Blackberries, the lighter soils are preferred by the Red Raspberries. Nevertheless the three sorts do well on sandy soils and in them ripen a few days earlier.

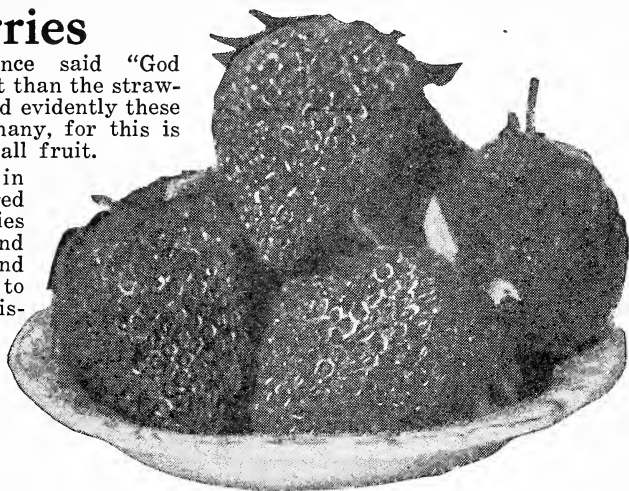
The first summer two or three canes, no more, should be allowed to grow from the root. In midsummer when the canes have reached a height of about two feet, the top should be pinched off with the thumb and finger, as this will cause the canes to throw out laterals.

The bushes may be trimmed in the fall, all the surplus suckers and old fruit canes taken out, and the suckers that are left for the next year's crop, cut back within two and a half feet of the ground. This trimming out of old suckers, etc., should be repeated year after year. Mulching is a great advantage to both raspberries and blackberries.

Strawberries

Henry Ward Beecher once said "God might have made better fruit than the strawberry, but He never did," and evidently these sentiments are shared by many, for this is surely the most popular small fruit.

The strawberry does best in land which is well manured and in good tilth. Strawberries are rather shallow rooted and must be encouraged to send their roots deeper in order to be sure of a supply of moisture and to feed in a soil of even temperature. See that no soil is allowed to remain in the crown of the plant.

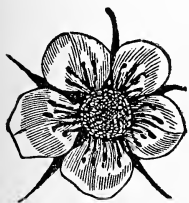


PLANTING

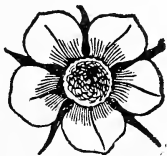
Strawberries for garden culture should be planted one foot apart in the row, with rows three feet apart. In setting out the plants, it is important that they be planted not too deeply. The crown should not be covered, nor should they be set too shallow so that the roots stand above the surface of the soil. Every nurseryman dislikes discussing strawberries with his customers because the customer fails with the plants so frequently, but will not believe that he has set his plants improperly. Spring is the proper time to plant. Mulching strawberries is done to keep the soil moist and cool in summer, and to protect the berries from mud.

STERILE SORTS

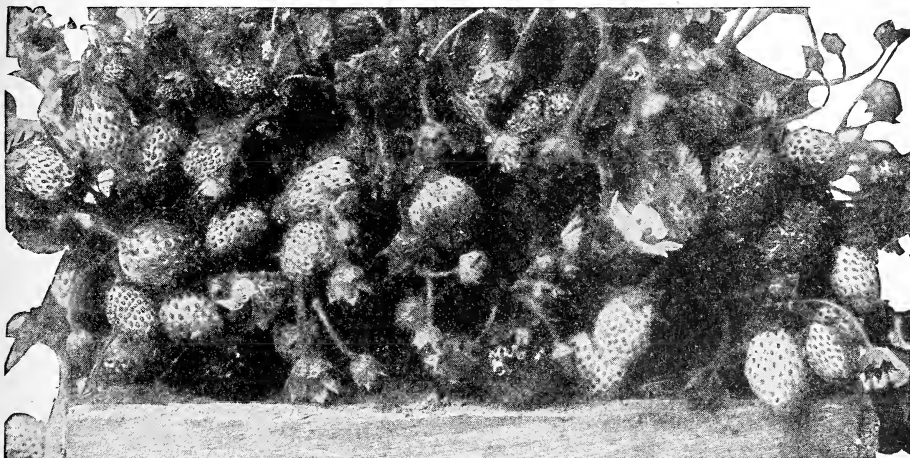
Strawberry flowers may be either perfect or imperfect and the nature of the flower is characteristic of the variety. In some kinds the flower is perfect, that is, it has both pistils and stamens, so is self-fertile. In others it is pistillate, producing no pollen, and requiring a pollen bearing variety to pollenate it. The perfect flowered varieties differ greatly in the amount of pollen they produce. Some, as the Crescent and the Glen Mary, bear so few stamens that they are practically pistillate or sterile. Any variety will fertilize any other variety if it bears sufficient pollen and if the two kinds bloom at the same time. When planting pistillate varieties, every third row should be a pollen bearing kind.



Perfect or
Staminate



Imperfect or
Pistillate



Hardy Vegetables

Two of the most desirable vegetables of the garden, that are first to produce the spring supply of delicious foods are perfectly hardy, and should form a part of every graden and as they are not unsightly, may well be produced at homes that do not bother with a regular vegetable garden.

ASPARAGUS

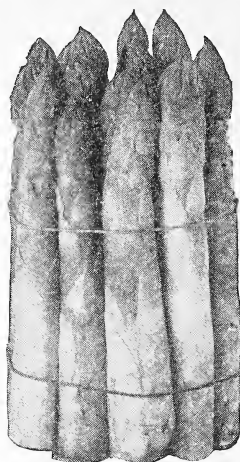
To many persons Asparagus is the choicest of all vegetables, and it is always a pleasure to be able to cut it fresh from your garden each day in Early Spring. It is easily grown.

WHAT. Sow seed in early Spring and raise your own plants or buy the strong roots.

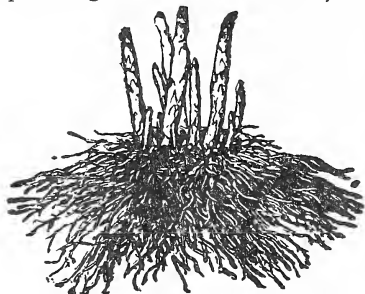
WHERE. Set Asparagus in rows or beds away from the general vegetable plot as it is a permanent crop and should not be disturbed by plowing or spading.

WHEN. It may be planted in either Spring or Fall.

HOW TO PLANT. Dig up ground deeply, put on plenty of well-rotted manure, thoroughly mixed in the soil, throw out a bed about four to five inches deep, lay the plants in by spreading the roots out well, and scatter the dirt over the



Asparagus



Asparagus Roots Spread Out

plants. Press the dirt well around the plant by patting it down with a spade or shovel, then top dress the ground with about three inches of well-rotted manure and scatter salt enough over the top of this to make the ground white. The second year after planting, you will be able to harvest enough asparagus for a good sized family from a bed of about two hundred plants. Two hundred plants will make a bed three feet wide and fifteen feet long. Keep the crown of the asparagus cut regularly so it will not get too large and woody. A good asparagus root properly planted will produce from three and one-half to seven pounds of asparagus, and when planted in small beds, where it can be well mulched and cared for, it will even do much better than this. It is necessary to start good roots. It depends much more on the care of the plants and the plant food given them than it does the variety planted. Salt should be used at the end of every season, in the spring.

RHUBARB

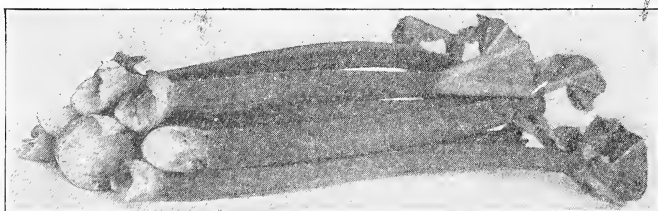
The health maintaining qualities of home grown Rhubarb for pies and sauces needs no word of recommendation. Its permanency in the garden is a point to remember.

WHAT TO PLANT. Buy strong roots of a good variety.

WHERE. Plant in almost any out-of-the-way spot of the garden and these plants will thrive. Roots may be dug in Fall and brought to a cool dark cellar where they will produce a crop of pink stems throughout the winter. The amount you can cut depends upon the size of the roots. After forcing, set the roots into the garden the next spring to recuperate their strength, or if a drain tile is placed over a plant in the garden, long tender stems will be produced as soon as the spring comes.

WHEN. Buy plants in early Spring or Fall.

HOW TO PLANT. Rhubarb thrives in a deep, rich soil, but it is such a strong, vigorous growing plant that it will do fairly well almost anywhere. Set the roots so that the crowns will be about an inch below the surface. It is a gross feeder, and the more manure supplied the larger and finer the yield.



List of Trees useful for Various Purposes

Good Street Trees

Ash, Green	<i>Fraxinus laciniata.</i>	
Elm, American	<i>Ulmus americana.</i>	
Elm, Chinese	<i>Ulmus pumila.</i>	
Locust, Honey	<i>Gleditsia triacanthos.</i>	
Maiden hair	<i>Ginkgo biloba.</i>	
Maple, Norway	<i>Acer platanoides.</i>	
Maple, Schwedler	<i>Acer platanoides schwedleri.</i>	
Maple, Sugar	<i>Acer saccharinum.</i>	
Oak, Pin	<i>Quercus palustris.</i>	
Oak, Red	<i>Quercus rubra.</i>	
Plane, Oriental Sycamore	<i>Platanus orientalis.</i>	
Tree-of-heaven	<i>Ailanthus glandulosa.</i>	Good only because they are only trees which stand bad conditions.

Bad Street Trees

Ash, European	<i>Fraxinus excelsior.</i>	
Birches	<i>Betula.</i>	
Boxelder	<i>Acer negundo.</i>	Small, straggling.
Catalpa, Western	<i>Catalpa speciosa.</i>	Messy, short-lived.
Maple, Soft or Silver	<i>Acer dasycarpum.</i>	Same bad features as Poplar.
Carolina Poplar	<i>Populus eugenei.</i>	Heaves pavements, breaks in storms, gets into sewer pipes. Should be prohibited by cities.
Tree-of-heaven	<i>Ailanthus glandulosa.</i>	
Tuliptree	<i>Liriodendron tulipifera.</i>	Breaks in storm.
Willows	<i>Salix.</i>	

Deciduous Trees For Formal Effects

Catalpa, Manchurian	<i>Catalpa bungei.</i>	Globe.
Elm, Camperdown	<i>Ulmus glabra</i> var.	Drooping.
Maple, Hedge	<i>Acer campestre.</i>	Oval.
Maple, Sentry	<i>Acer saccharinum monumentale.</i>	Vertical.
Mulberry, Weeping	<i>Morus alba.</i>	Drooping.
Oak, Pin	<i>Quercus palustris.</i>	Conical.
Oak, Pyramidal English	<i>Quercus robur fastigiata.</i>	Vertical.
Poplar, Bolleana	<i>Populus bolleana.</i>	Vertical.
Poplar, Lombardy	<i>Populus italica.</i>	Vertical.

Weeping Trees

Birch, European Weeping	<i>Betula alba pendula.</i>	
Elm, Camperdown	<i>Ulmus glabra pendula.</i>	
Maple, Wiers	<i>Acer dasycarpum</i> var. <i>Wieri.</i>	
Mulberry, Weeping	<i>Morus alba.</i>	
Willow, Kilmarnock	<i>Salix caprea</i> var.	
Willow, Thurlow Weeping	<i>Salix elegantissima.</i>	
Willow, Wisconsin Weeping	<i>Salix blanda</i> var.	

Flowering Trees

Catalpa	<i>Catalpa speciosa.</i>	
Cherry, various	<i>Prunus.</i>	
Crabs, various	<i>Malus.</i>	
Dogwood, Flowering	<i>Cornus florida.</i>	
Fringetree	<i>Chionanthus virginica.</i>	
Hawthorn, various	<i>Crataegus.</i>	
Horsechestnut	<i>Aesculus hippocastanum.</i>	



Lilac, Chinese	<i>Syringa chinensis.</i>
Lilac, Japanese Tree	<i>Syringa chinensis.</i>
Linden, American	<i>Tilia americana.</i>
Magnolia, various	<i>Magnolia.</i>
Maple, Norway	<i>Acer platanoides.</i>
Maple, Red	<i>Acer rubra.</i>
Peach, various	<i>Prunus.</i>
Pearlbush	<i>Ezochorda grandiflora.</i>
Plum, various	<i>Prunus.</i>
Silverbell	<i>Halesia tetraptera.</i>
Smoketree	<i>Rhus cotinus.</i>
Sorreltree	<i>Oxydendron arboreum.</i>
Storax	<i>Styrax japonica.</i>

Trees With Attractive Autumn Foliage

Dogwood, Flowering	<i>Cornus florida.</i> Scarlet.
Maple, Red	<i>Acer rubra.</i> Scarlet.
Maple, Sugar	<i>Acer saccharinum.</i> Golden and scarlet.
Oak, Scarlet	<i>Quercus coccinea.</i> Scarlet.
Oak, White	<i>Quercus alba.</i> Purple.
Sassafras	<i>Sassafras variifolium.</i> Orange and scarlet.
Sourwood	<i>Oxydendron arboreum.</i> Golden.
Sweetgum	<i>Liquidamber styraciflua.</i> Crim- son.
Tuliptree	<i>Liriodendron tulipifera.</i> Golden.
Tupelo, Pepperidge	<i>Nyssa sylvatica.</i> Red.

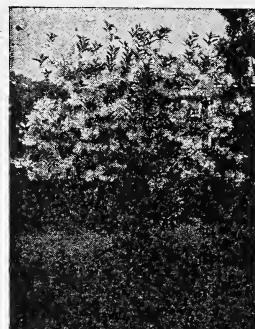
Trees With Colored Bark, Attractive in Winter

Beech	<i>Fagus sylvatica.</i>
Birch, White	<i>Betula alba.</i>
Sycamore	<i>Platanus occidentalis.</i>
Willow, Golden	<i>Salix vitellina.</i>

Evergreens

Coniferous Evergreens For Lawn Planting

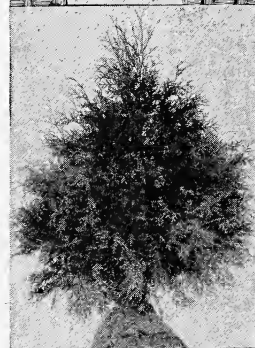
Arborvitae, American	<i>Thuja occidentalis.</i>
Arborvitae, Siberian	<i>T. oc. sibirica.</i>
Bald-cypress	<i>Taxodium distichum.</i>
Cypress, Lawson	<i>Chamaecyparis lawsoniana.</i>
Douglas-fir	<i>Pseudotsuga douglasi.</i>
Fir, Alpine	<i>Abies lasiocarpa.</i>
Fir, Nordmann	<i>A. nordmanniana.</i>
Fir, Veitch	<i>A. veitchi.</i>
Fir, White	<i>A. concolor.</i>
Hemlock, Canada	<i>Tsuga canadensis.</i>
Hemlock, Carolina	<i>T. caroliniana.</i>
Pine, Austrian	<i>Pinus nigra.</i>
Pine, Mountain	<i>P. montana.</i>
Pine, Norway or Red	<i>P. resinosa.</i>
Pine, Scotch	<i>P. sylvestris.</i>
Pine, Swiss Stone	<i>P. cembra.</i>
Pine, Western Yellow	<i>P. ponderosa.</i>
Pine, White	<i>P. strobus.</i>
Redcedar	<i>Juniperus virginiana.</i>
Redcedar, Silver	<i>J. virginiana cannarti.</i>
Retinospora, Goldensplume	<i>Chamaecyparis pisifera plum- osa aurea.</i>
Retinospora, Golden Sawara	<i>C. pisifera aurea.</i>
Retinospora, Heath	<i>Thuja occidentalis ericoides.</i>
Retinospora, Moss	<i>C. pisifera squarrosa.</i>
Retinospora, Plume	<i>C. pisifera plumosa.</i>



FRINGE TREE OR LINDEN



SWEET GUM



AMERICAN ARBORVITAE



AUSTRIAN PINE

Retinospora, Sawara	<i>C. pisifera</i> .
Spruce, Colorado	<i>Picea pungens</i> .
Spruce, Koster Blue	<i>P. pungens kosteri</i> .
Spruce, Norway	<i>P. excelsa</i> .
Spruce, Oriental	<i>P. orientalis</i> .
Spruce, Tigertail	<i>P. polita</i> .
Spruce, White	<i>P. canadensis</i> .

Tall Sorts For Corners of House and Backgrounds

Arborvitae, Amer. Pyramid.....	<i>Thuja occidentalis pyramidalis</i> .
Arborvitae, George Peabody.....	<i>Thuja occidentalis</i> .
Arborvitae, Oriental Pyramid.....	<i>Thuja orientalis (Biota)</i> .
Hemlock, Canada	<i>Tsuga canadensis</i> .
Juniper, Swedish	<i>Juniperus communis succica</i> .
Redcedar	<i>Juniperus virginiana</i> .
Redcedar, Cannart	<i>J. virginiana cannarti</i> .
Redcedar, Schott	<i>J. virginiana schottii</i> .
Redcedar, Silver	<i>J. virginiana glauca</i> .
Retinospora, Goldenplume	<i>Chamaecyparis pisifera plumosa</i> var. <i>aurea</i> .
Retinospora, Golden Sawara.....	<i>C. pisifera aurea</i> .
Retinospora, Heath	<i>Thuja occidentalis ericoides</i> .
Retinospora, Plume	<i>C. pisifera plumosa</i> .
Retinospora, Sawara	<i>C. pisifera</i> .
Retinospora, Thread	<i>C. pisifera filifera</i> .

Medium Tall Sorts

Arborvitae, Oriental	<i>T. orientalis (Biota) compacta</i>
Juniper, Greek	<i>Juniperus excelsa stricta</i> .
Juniper, Pfitzer.....	<i>J. chinensis pfitzeriana</i> .

Low Sorts For Front of Planting

Arborvitae, American Globe.....	<i>Thuja occidentalis globosa</i> .
Arborvitae, Tom Thumb	<i>T. occidentalis</i> Tom Thumb.
Juniper, Common	<i>Juniperus communis</i> .
Juniper, Creeping	<i>J. sabina horizontalis</i> .
Juniper, Japan	<i>J. chinensis procumbens</i> .
Juniper, Prostrate	<i>J. communis depressa</i> .
Juniper, Savin	<i>J. sabina</i> .
Juniper, Tamarix	<i>J. sabina tamariscifolia</i> .
Juniper, Waukegan	<i>J. horizontalis douglasi</i> .
Pine, Mugho.....	<i>Pinus montana mughus</i>
Yew, Canada (Ground-hemlock).....	<i>Taxus canadensis</i> .

Evergreens For the Shade

*Box, Tree	<i>Buxus sempervirens arborescens</i> .
*Fern, Christmas	<i>Aspidium acrostichoides</i> .
*Fern, Marginal	<i>Aspidium marginale</i> .
Hemlock, Canada	<i>Tsuga canadensis</i> .
*Holly, American	<i>Ilex opaca</i> .
*Ivy, English	<i>Hedera helix</i> .
Juniper, Common	<i>Juniperus communis</i> .
*Pachysandra	<i>Pachysandra terminalis</i> .
*Periwinkle	<i>Vinca minor</i> .
Pine, Mountain	<i>Pinus montana</i> .
*Rhododendron	<i>Rhododendron</i> .
Wintercreeper	<i>Euonymus radicans</i> .
Wintercreeper, Bigleaf	<i>Euonymus radicans vegeta</i> .
Yew, Canada	<i>Taxus canadensis</i> .
Yew, Japanese	<i>Taxus cuspidata</i> .

*Broad-leaved sorts, the others are conifers.



NORWAY SPRUCE



JUNIPER



GLOBE ARBORVITAE



HEMLOCK

Broadleaf Evergreens

Abelia, Glossy	<i>Abelia grandiflora</i> .
Andromeda, Japanese	<i>Pieris japonica</i> .
Andromeda, Mountain	<i>Pieris floribunda</i> .
Azalea various	
Box, Common	<i>Buxus sempervirens</i> .
Box, Japanese	<i>Buxus japonica (microphylla)</i> .
Cotoneaster Roundleaf	<i>Cotoneaster rotundifolia (buxifolia)</i> .
Garlandflower	<i>Daphne cneorum</i> .
Holly, Japanese	<i>Illex crenata</i> .
Holly, Littleleaf Japanese	<i>Illex crenata microphylla</i> .
Hollygrape, Oregon	<i>Mahonia aquifolium</i> .
Leucothoe, Drooping	<i>Leucothoe catesbaei</i> .
Mountain-laurel	<i>Kalmia latifolia</i> .
Pachysandra	<i>Pachysandra terminalis</i> .
Rockspray	<i>Cotoneaster horizontalis</i> .
Wintercreeper	<i>Euonymus radicans</i> .
Wintercreeper, Baby	<i>E. radicans kewensis</i> .
Wintercreeper, Bigleaf	<i>E. radicans vegeta</i> .
Wintercreeper, Glossy	<i>E. radicans carrierei</i> .
Wintercreeper, Sharpleaf	<i>E. radicans acutus</i> .

Shrubs Less Than 2 Feet Tall

Barberry, Box	<i>Berberis thunbergi var.</i>
Cranberrybush, Dwarf	<i>Viburnum opulus nanum</i> .
Deutzia, Graceful	<i>Deutzia gracilis</i>
Jerseytea	<i>Ceanothus americanus</i> .
Spirea Anthony Waterer	<i>Spirea bumalda</i> .
Spirea Japanese	<i>Spirea japonica</i> .
St. Johnswort	<i>Hypericum</i> .
Weigelia, Yellow	<i>Diervilla trifida</i> .
Yellow-root	<i>Zanthorhiza apiifolia</i> .

Shrubs 2 to 3 Feet Tall

Berberis, Japanese	<i>Berberis thunbergi</i> .
Hollygrape, Oregon	<i>Mahonia aquifolia</i> .
Spirea, Froebel	<i>Spirea froebeli</i> .
Spirea, Thunberg	<i>Spirea thunbergi</i> .
Sumac, Fragrant	<i>Rhus canadensis</i> .

Shrubs 3 to 4 Feet Tall

Buckthorn	<i>Rhamnus cathartica</i> .
Coralberry	<i>Symphoricarpos vulgaris</i> .
Deutzia, Lemoine	<i>Deutzia lemoinei</i>
Hills of Snow	<i>Hydrangea arborescens</i> .
Jetbead	<i>Rhodotypos kerrioides</i> .
Kerria	<i>Kerria japonica</i> .
Snowberry	<i>Symphoricarpos racemosus</i> .
Spirea, Reeves	<i>Spirea reevesiana</i> .
Summersweet	<i>Clethra alnifolia</i> .

Shrubs 5 to 8 Feet Tall

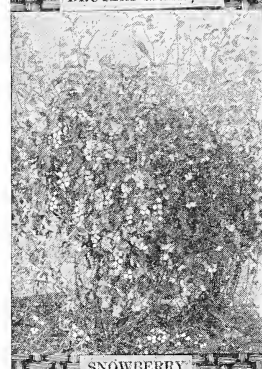
Butterflybush, Oxeye	<i>Buddleia daridi magnifica</i> .
Cranberrybush	<i>Viburnum opulus</i> .
Deutzia	<i>Deutzia crenata varieties</i> .
Elder, Cutleaf	<i>Sambucus nigra var. laciniata</i> .
Elder, Golden	<i>Sambucus nigra var. aurea</i> .
Goldenbell	<i>Forsythia intermedia, fortunei</i> .
Honeysuckle, Bush	<i>Lonicera various</i> .
Hydrangea, P. G.	<i>Hydrangea paniculata grandiflora</i> .
Indigobush	<i>Amorpha fruticosa</i> .
Lilac, French Hybrid	<i>Syringa vulgaris hybrids</i> .
Mockorange	<i>Philadelphus</i> .



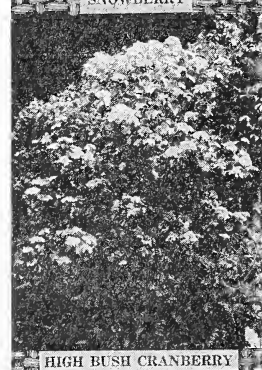
ABELIA



DEUTZIA GRACILIS



SNOWBERRY



HIGH BUSH CRANBERRY

Rose-acacia	<i>Robinia hispida.</i>
Shrub-althea	<i>Hibiscus syriacus.</i>
Snowball, Common	<i>Viburnum opulus sterilis.</i>
Snowball, Japanese	<i>Viburnum plicatum.</i>
Spirea, Vanhoutte	<i>Spirea vanhouttei.</i>
Sumac, Cutleaf	<i>Rhus glabra laciniata.</i>

Shrubs Taller Than 8 Feet

Bladder-senna	<i>Colutea arborescens.</i>
Cercidiphyllum	<i>Cercidiphyllum japonicum.</i>
Fringetree, White	<i>Chionanthus virginica.</i>
Hercules-club	<i>Aralia spinosa.</i>
Nannyberry	<i>Viburnum prunifolia.</i>
Ninebark	<i>Physocarpus opulifolius.</i>
Russian-olive	<i>Elaeagnus angustifolia.</i>
Silverbell	<i>Halesia tetraptera.</i>
Tamarisk	<i>Tamerix various.</i>
Smoketree, Purple	<i>Rhus cotinus.</i>

Shrubs With Colored Bark

Dogwood, Bloodtwig	<i>Cornus sanguinea.</i> Red.
Dogwood, Goldentwig	<i>Cornus stolonifera flaviramea.</i> Yellow.
Dogwood, Red-osier	<i>Cornus alba sibirica.</i> Red.
Kerria	<i>Kerria japonica.</i> Green.

Shrubs With Variously Colored Leaves

Dogwood, Variegated	<i>Cornus mas</i> or <i>C. alba.</i> White, pink.
Elder, Golden	<i>Sambucus nigra aurea.</i> Yellow.
Filbert, Purple	<i>Corylus avellana atropurpurea.</i> Purple.
Filbert, Purple Giant	<i>Corylus maxima purpurea.</i> Purple.
Kerria, Variegated	<i>Kerria japonica.</i> White.
Mockorange, Golden	<i>Philadelphus coronarius.</i> <i>aureus.</i> Yellow.
Plum, Purple	<i>Prunus pissardi.</i> Purple.
Rose, Redleaf	<i>Rosa rubrifolia.</i> Red.
Shrub-althea	<i>Hibiscus syriacus</i> var. White.
Weigelia, Dwarf Variegated	<i>Diervilla</i> var. White, yellow.

Shrubs With Attractive Fruits

Barberry, Japanese	<i>Berberis thunbergi.</i> Red.
Burningbush, European	<i>Euonymus europaeus.</i> Orange and Red.
Coralberry	<i>Symphoricarpos vulgaris.</i> Red.
Cranberrybush	<i>Viburnum opulus.</i> Red.
Elder, Red	<i>Sambucus racemosus.</i> Red.
Euonymus, Brook	<i>Euonymus americana.</i> Orange and Red.
Firethorn	<i>Pyracantha coccinea.</i> Red.
Honeysuckle, Belle	<i>Lonicera bella.</i> Red.
Honeysuckle, Tartarian	<i>Lonicera tatarica.</i> Red, yellow.
Jethead	<i>Rhodotypos kerrioides.</i> Black.
Privet, Common	<i>Ligustrum vulgare.</i> Black.
Privet, Ibota	<i>Ligustrum ibota.</i> Black.
Rose, Japanese	<i>Rosa rugosa.</i>
Snowberry	<i>Symphoricarpos racemosus.</i> White.
Viburnums	<i>Viburnum various.</i> White, red, black.

Shrubs For Cut Flowers

Butterflybush	<i>Buddleia davidi variabilis.</i> July to September.
---------------------	----------------------------------------------------------



FRENCH LILAC



TAMARISK



SIBERIAN DOGWOOD



BUTTERFLY BUSH

Cornelian-cherry	<i>Cornus mas</i> . March.
Deutzia	<i>Deutzia crenata, gracilis</i> . May.
Goldenbells	<i>Forsythia</i> various. March.
Hydrangea	<i>Hydrangea</i> various. June to July.
Lilac	<i>Syringa vulgaris</i> . May.
Mockorange	<i>Philadelphus</i> various. June.
Ninebark	<i>Physocarpus opulifolius</i> . June.
Pussy Willow	<i>Salix caprea</i> . March.
Quince, Japanese	<i>Chaenomeles japonica</i> . April.
Snowball, Common	<i>Viburnum opulus</i> . May.
Sorbraria	<i>Sorbraria sorbifolia</i> . June to July.
Weigelia	<i>Weigelia</i> various. June.

Shrubs For the Shade

Barberry, Japanese	<i>Berberis thunbergi</i> .
Box	<i>Buxus</i> .
Coralberry	<i>Symphoricarpos vulgaris</i> .
Dogwoods	<i>Cornus alba, paniculata, stol-onifera</i> .
Hazelnut	<i>Corylus americana</i> .
Hollygrape, Oregon	<i>Mahonia aquifolium</i> .
Honeysuckle, Fragrant	<i>Lonicera fragrantissima</i> .
Jersey-tea	<i>Ceanothus americana</i> .
Pachysandra	<i>Pachysandra terminalis</i>
Privet	<i>Ligustrum</i> various.
Snowberry	<i>Symphoricarpos racemosus</i> .
Spicebush	<i>Benzoin aestivale</i> .
Spirea	<i>Spirea</i> various.
St. Johnswort.....	<i>Hypericum aureum</i> .
Viburnums	<i>Viburnum</i> , especially <i>V. acerifolium</i> .
Wintercreeper	<i>Euonymus radicans</i> .
Witch-hazel	<i>Hamamelis virginiana</i> .

Shrubs Which Resist Drought

Aralia, Fiveleaf	<i>Acanthopanax pentaphylla</i> .
Barberry, Japanese	<i>Berberis thunbergi</i> .
Bladder-senna	<i>Colutea arborescens</i> .
Buckthorn	<i>Rhamnus frangula</i> .
Cherry, Sand	<i>Prunus pumila</i> .
Cinquefoil, Shrubby	<i>Potentilla fruticosa</i> .
Coralberry	<i>Symphoricarpos vulgaris</i> .
Dogwood, Panicle	<i>Cornus paniculata</i> .
Elaeagnus, Cherry	<i>Elaeagnus longipes</i> .
Goldenbells	<i>Forsythia</i> various.
Honeysuckle, Morrow	<i>Lonicera morrowi</i>
Jetbead	<i>Rhodotypos kerrioides</i> .
Pea-tree, Siberian	<i>Caragana arborescens</i> .
Privets	<i>Ligustrum</i> various.
Russian-olive	<i>Elaeagnus angustifolia</i> .
Snowberry	<i>Symphoricarpos racemosus</i> .
St. Johnswort.....	<i>Hypericum kalmianum</i> .

Shrubs Which Blossom For 8 Weeks or More

Butterflybush	<i>Buddleia davidi magnifica</i> .
Hills-of-Snow	<i>Hydrangea arborescens</i> .
Hydrangea P. G.	<i>Hydrangea paniculata grandiflora</i> .
Jetbead	<i>Rhodotypos kerrioides</i> .
Kerria, Double	<i>Kerria japonica fl. pl.</i>
Rose, Japanese	<i>Rosa rugosa</i>
Spirea, Billard	<i>Spirea billardi</i> .
Spirea, Douglas	<i>Spirea douglasi</i> .
St. Johnswort.....	<i>Hypericum proliferum</i> .
Summersweet	<i>Clethra alnifolia</i> .
Weigelia	<i>Eva Rathke</i> .



MOCKORANGE



JAPANESE QUINCE



BUSH HONEYSUCKLE



SPIREA BILLARDI

Shrubs With White Flowers

Deutzia, Graceful	<i>Deutzia gracilis</i> .
Dogwood, various sorts	<i>Cornus various</i> .
False-spirea	<i>Sorbaria sorbifolia</i> .
Hills-of-Snow	<i>Hydrangea arborescens</i> .
Jetbead	<i>Rhodotypos kerrioides</i> .
Lilac varieties	<i>Syringa vulgaris</i> .
Mockorange	<i>Philadelphus various</i> .
Shrub-althea	<i>Hibiscus syriacus</i> .
Snowball, Common	<i>Viburnum opulus var. sterilis</i> .
Snowball, Japanese	<i>Viburnum plicatum</i> .
Spirea, Bridalwreath	<i>Spirea prunifolia</i> .
Spirea, Reeves	<i>Spirea reevesiana</i> .
Spirea, Vanhoutte	<i>Spirea vanhouttei</i> .
Summersweet	<i>Clethra alnifolia</i> .

Shrubs With Pink or Rose Flowers

Deutzia, Rose Panicle	<i>Deutzia gracilis rosea</i> .
Honeysuckle, Tartarian	<i>Lonicera tatarica</i> .
Tamerisk	<i>Tamerix various</i> .
Spirea, Pink	<i>Spirea callosa rubra</i> .
Weigelia, Pink	<i>Weigelia rosea</i> .

Shrubs With Red Flowers

Quince, Japanese	<i>Chaenomeles japonica</i>
Spirea, Anthony Waterer	<i>Spirea bumalda</i> .
Spirea, Douglas	<i>Spirea douglasii</i> .
Spirea, Froebel	<i>Spirea bumalda</i>
Weigelia, Eva Rathke	<i>Weigelia</i> .

Shrubs With Yellow Flowers

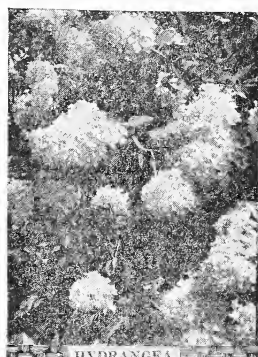
Goldenbell	<i>Forsythia various</i> .
Golden Currant	<i>Ribes aureum</i> .
Kerria	<i>Kerria japonica</i> .
St. Johnswort	<i>Hypericum various</i> .
Weigelia, Yellow	<i>Diervilla sessilifolia (lutea)</i>

Perennials For Cut Flowers

Babysbreath	<i>Gypsophila paniculata</i> .
Balloonflower	<i>Platycodon grandiflora</i> , mariesi.
Blanketflower	<i>Gaillardia aristata</i> .
Chrysanthemum, Hardy	<i>Chrysanthemum</i> .
Coreopsis	<i>Coreopsis lanceolata grandiflora</i> .
Daisy, Pink	<i>Pyrethrum roseum</i> .
Daisy, Shasta	<i>Chrysanthemum maximum</i> .
Dragonhead, False	<i>Physostegia virginica</i> .
Forget-me-not	<i>Myosotis various</i> .
Helenflower, variety	<i>Helenium autumnale</i> .
Larkspur, Hardy	<i>Delphinium</i> .
Milfoil, Rosy	<i>Achillea millefolium roseum</i> .
Milfoil, Perry's White	<i>Achillea ptarmicoides</i> .
Peony	<i>Paeonia albiflora</i> .
Pinks, Grass	<i>Dianthus plumarius</i> .
Sweet-william	<i>Dianthus barbatus</i> .

Perennials With a Long Season of Bloom

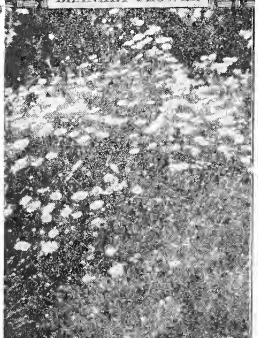
Blanketflower	<i>Gaillardia aristata</i> .
Bleedingheart, Everblooming	<i>Dicentra eximia</i> .
Coreopsis	<i>Coreopsis grandiflora</i> .
Dragonhead, False	<i>Physostegia virginica</i> .
Forget-me-not	<i>Myosotis alpestris</i> .
Harebell, Carpathian	<i>Campanula carpatica</i> .
Larkspur, Hardy	<i>Delphinium</i>



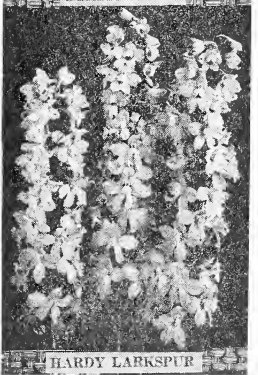
HYDRANGEA



BLANKET FLOWER



SHASTA DAISY



HARDY LARKSPUR

Mountain-bluet	<i>Centaurea montana.</i>
Pansy, Tufted	<i>Viola cornuta.</i>
Poppy-mallow	<i>Callirrhoe involucrata.</i>
Sweet William, Everflowering	<i>Dianthus latifolius.</i>

Perennials Blooming After Frost

Aster, Tartarian	<i>Aster tatarica.</i>
Blanketflower	<i>Gaillardia aristata.</i>
Chrysanthemum, Hardy	
Coreopsis	<i>Coreopsis lanceolata grandiflora.</i>
Plumbago, Larpenite	<i>Ceratostigma plumbaginoides.</i>
Sunflower, Maximilian	<i>Helianthus maximiliani.</i>

Perennials to Remain Undisturbed For a Number of Years

Adonis	<i>Adonis various.</i>
Bleedingheart	<i>Dicentra spectabilis.</i>
Gasplant	<i>Dictamnus (fraxinella) albus.</i>
Peony	<i>Paeonia.</i>
Wild-indigo	<i>Baptisia australis.</i>

Perennials For the Shade

Anemone, Japanese	<i>Anemone japonica.</i>
Bergamot	<i>Monarda didyma.</i>
Bishopsweed	<i>Aegopodium podagraria.</i>
Bleedingheart	<i>Dicentra spectabilis.</i>
Bluebells, Virginia	<i>Mertensia virginica.</i>
Bugle	<i>Ajuga reptans.</i>
Buglos, Italian	<i>Anchusa italica.</i>
Cardinalflower	<i>Lobelia cardinalis.</i>
Columbine	<i>Aquilegia various.</i>
Daylily	<i>Hemerocallis.</i>
Ferns	
Meadowsweet	<i>Filipendula.</i>
Forget-me-not	<i>Myosotis.</i>
Foxglove	<i>Digitalis purpurea.</i>
Lily-of-the-valley	<i>Convallaria majalis.</i>
Meadowrue	<i>Thalictrum.</i>
Monkshood	<i>Aconitum various.</i>
Moss-pink	<i>Phlox subulata.</i>
Plantain Lily	<i>Hosta (Funkia) various.</i>
Phlox, Blue	<i>Phlox divaricata.</i>
Stonecrop	<i>Sedum various.</i>
Violet	<i>Viola various.</i>

Perennials For Moist Soil

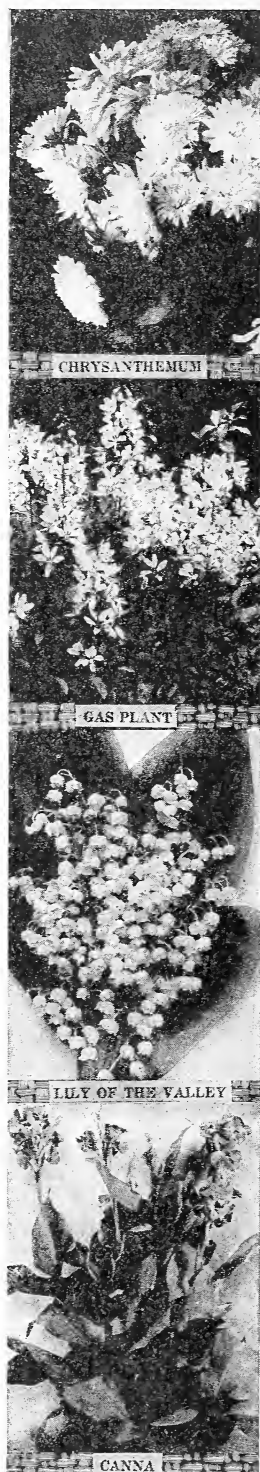
Bergamot	<i>Monarda didyma.</i>
Cardinalflower	<i>Lobelia cardinalis.</i>
Iris, European Flag	<i>Iris pseudacorus.</i>
Joe-pye-weed	<i>Eupatorium purpureum.</i>
Marsh-mallow	<i>Hibiscus moscheutos.</i>

Bulbs For Fall Planting

Colchicum	Lilies
Crocus	Narcissus, Medium Trumpet
Daffodils	Squills
Hyacinths	Tulips
Jonquils	

Bulbs For Spring Planting

Begonia, Tuberous-rooted
Caladium, Elephant's-ear
Canna
Dahlia



Gladiolus	
Ismene, Peruvian Daffodil	<i>Hymenocallis.</i>
Tigridia, Tigerflower	
Torchlily	<i>Kniphofia, Tritoma.</i>
Tuberose	

Tall Climbers

Dutchman's Pipe	<i>Aristolochia siph.</i>
Honeysuckle	<i>Lonicera japonica var. halleana.</i>
Hop	<i>Humulus japonica and lupulus</i>
Kudzu-bean	<i>Pueraria thunbergiana.</i>
Moonvine	<i>Calonyction aculeatum.</i>
Silverlacevine	<i>Polygonum auberti.</i>
Wisteria	<i>Wistaria chinensis.</i>

Vines For Shaded Places

Actinidia	<i>Actinidia arguta.</i>
Akebia	<i>Akebia quinata.</i>
Cinnamon-vine	<i>Dioscorea.</i>
Dutchman's Pipe	<i>Aristolochia siph.</i>
Fumatory, Climbing	<i>Adlumia fungosa.</i>
Honeysuckle Hall	<i>Lonicera japonica halleana.</i>
Ivy, English	<i>Hedera helix.</i>
Ivy, Japanese or Boston	<i>Ampelopsis tricuspidata.</i>
Moonseed	<i>Menispermum canadense</i>

Evergreen Climbers

Honeysuckle, Hall	<i>Lonicera japonica halleana.</i>
Ivy, English	<i>Hedera helix</i>
Wintercreeper	<i>Euonymus radicans.</i>
Wintercreeper, Kew	<i>Euonymus radicans var. kewensis.</i>
Wintercreeper, Bigleaf	<i>Euonymus radicans v a r. vegeta.</i>

Flowering Climbers

Clematis, Jackman	<i>Clematis jackmanni.</i> Purple, red and others.
Clematis, Japanese	<i>Clematis paniculata.</i> White.
Goldenbells	<i>Forsythia suspensa.</i> Yellow.
Honeysuckle, Coral	<i>Lonicera sempervirens.</i> Coral.
Honeysuckle, Japanese	<i>Lonicera japonica.</i> Yellow, white.
Honeysuckle, Hall	<i>Lonicera japonica var. halleana.</i> Yellow, white.
Rose, many varieties	Crimson, white, yellow, pink.
Silverlacevine	<i>Bignonia radicans.</i> Scarlet, orange.
Wistaria	<i>Wistaria chinensis.</i> Purple, white.

Plants For Ground Covers

Bugle	<i>Ajuga reptans.</i>
Crownvetch	<i>Coronilla varia.</i>
Goutweed	<i>Aegopodium podagraria.</i>
Honeysuckle, Hall	<i>Lonicera japonica.</i>
Moneyswort	<i>Lysimachia nummularia.</i>
Pachysandra	<i>Pachysandra terminalis</i>
Periwinkle	<i>Vinca minor.</i>
Rose, Wichuraiana	<i>Rosa wichuraiana.</i>
Sandmyrtle	<i>Leiophyllum (Dendrium) buxifolium.</i>
Snow-in-summer	<i>Cerastium tomentosum.</i>
Stonecrops	<i>Sedum various.</i>
Wintercreeper	<i>Euonymus radicans.</i>
Yellowroot	<i>Zanthorhiza apifolia.</i>



GLADIOLUS



DUTCHMAN'S PIPE



CLEMATIS PANICULATA



CLIMBING ROSE

Home Garden Fruits

Old Tested Kinds That Have Proven Satisfactory

APPLE.

McIntosh, Jonathan.
N. W. Green- Baldwin.
ing. Ensee.
Yellow Trans- Grimes
parent, Golden.
(early.) York Imperial.
Wealthy, Rome Beauty.
(Fall.) Staymans
Duchess, Winesap.
(early.) Winesap
Fall Rambo. Winter
Summer Banana.
Rambo. Delicious.

CHERRY

Montmo- Yellow
rency. Spanish.
Early Black
Richmond. Tartarian.
Dye House. Gov. Wood.

QUINCE

Orange. Champion.

PEAR

Kieffer. Clapp's
Duchess. Favorite.
Bartlett. Flemish
Wilders' Beauty.
Early. Seckle.
Anjou.

PEACH

Elberta. Lemon Cling.
Rochester. Bell of
J. H. Hale. Georgia
Lemon Free. Fitzgerald.
Crawford's Champion.
Early.

PLUM

Moore's Artic. Abundance.
Lombard. Bradshaw.
Burbank. German
Shropshire Prune.
Damson. Gueii.

SMALL FRUITS

GRAPE.

Concord. Delaware.
Worden. Salem.
Niagara. Wyoming
Brighton. Red.

RASPBERRY

Cumberland, Kansas,
(Black.) (black.)
Cardinal. Columbia,
(Red.) (Purple.)
Cuthbert, St. Regis,
(Red.) (Red.)

GOOSEBERRY.

Downing. Houghton.

CURRENTS.

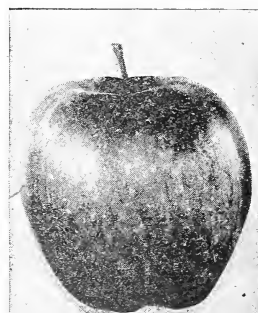
Cherry. White Grape.
Wilder. London
Red Cross. Market.
Fay's.

STRAWBERRY

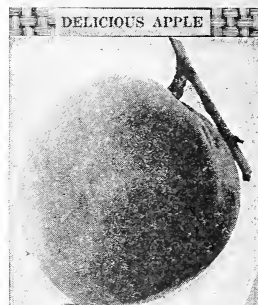
Aroma. Uncle Jim.
Haverland. Progressive
Bubach. (Everbear-
Senator ing.)
Dunlap.

BLACKBERRY

Eldorado. Mersereau.
Snyder.



DELICIOUS APPLE



ELBERTA PEACH



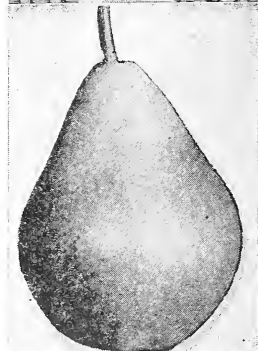
CHERRIES



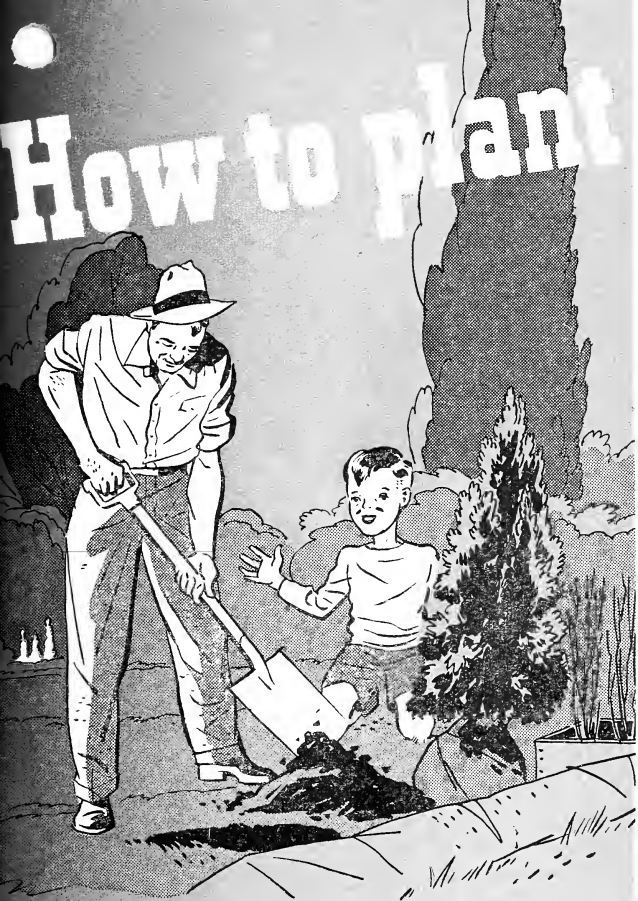
Senator Dunlap Strawberry



Lombard Plum



BARTLETT PEAR



How to plant

CALL'S NURSERIES

Est. 1877

Call Road

PERRY,

OHIO

HOW TO PLANT

All nursery stock needs careful handling. It must not be exposed to drying winds or sun before being transplanted. After being planted, the stock will need food and water.

INDEX

	Page
How to Prune Before Planting....	4-5
Trees	6
Shrubs	6
Distance Apart to Plant.....	7-8
Evergreens	8
Hedges	9
Bulbs and Tubers	9-10
Roses	11
Bush Fruits	12
Grapes	12
Asparagus	13
Rhubarb	13
Strawberries	13
Care After Transplanting	14
Insect Pests	15

How to Handle Upon Arrival



TAKE care of your nursery stock immediately upon its arrival. Weather conditions change suddenly and your stock might be frozen in transit. In that case, put in a cool but frostproof cellar. Don't unpack it until it is entirely

thawed out. The plants won't be damaged if thawed out gradually.

Sometimes trees may be somewhat dried out in transit from contact with hot steam pipes or delay at transfer points. Bury them in wet dirt, tops and all, for a day or two.

If possible, plant at once when shipment is received. If the weather is too cold for planting, put the box or bundle in a cool but frostproof cellar. If the weather is warm and you are not ready to plant, heel the stocks in (see next page) or unpack at once and place stock in a cool cellar. Cover the roots with damp packing from the box or bundle and spread out sacks or canvas over them. Sprinkle enough water on the trees to keep them from drying out, but do not drench the roots and tops.



Heeling-In Trees and Shrubs

Temporary Planting

If possible, heel your trees in a place convenient to the orchard or in the garden, preferably at the north side of a building or woods where they will have protection from the sun and their development will be retarded.

Select a well drained location. Dig a trench deep and wide enough to hold the roots without crowding. This trench or furrow should run east and west so the trees can be leaned toward the south or southwest. Throw the dirt from the trench so as to form a bank. Unpack the trees and place the roots in the bottom of the trench with the tops leaning against the bank.

Keep the varieties separate and spread out the trees so the dirt can be filled in about the roots. Fine, moist soil should be packed rather firmly about the roots to exclude air. Then heap more soil on the roots and a third or more of the tops. Some growers completely cover the trees. This prevents danger of injury from rabbits and mice and drying out of the tops if the weather turns warm. All packing material and grass that might harbor mice should be removed. If the ground is too dry, moisten the dirt about the roots.

How to Handle Evergreens

Evergreens that are balled and burlapped may be slightly dried out. By dipping the ball in a tub of water the soil will become thoroughly moistened. Now if the plants are to be kept a few days before planting they must be stored in a cool place away from sun and wind. Keep earth balls moist by covering with moist soil, leaves or straw. Evergreens shipped without earth balls should be planted as soon as possible.

**Planting is the one purchase you can
make which increases in value and
beauty from year to year.**

How to Prune Before Planting

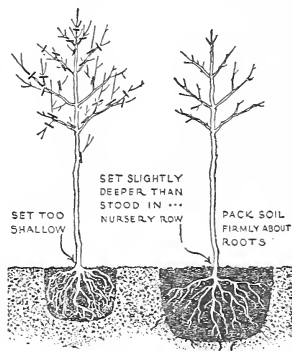
Many failures of newly transplanted stock are due to the lack of proper pruning. When the trees are dug in the nursery, some of the feeding roots are left in the ground, therefore, when transplanting it is necessary to restore the balance between the roots and the top by removing part of the tops.

In pruning, make a clean sharp cut. Do not leave stub ends in removing branches. Pruning shears, knives and hand saws are the best tools to use. All tools should be sharp.

Shade Trees. With shade trees having a heavy top, at least one-third of the top should be removed. Prune branches at points indicated by black lines (see illustration at bottom of page). Prune to avoid crowding branches. Cut out some of the small branches, shorten back the side branches, but do not cut off the leader or main stem. Try to get well developed head, strong leader and branches at wide, not close, angles. Cut off all broken roots.

Shrubs. It is easier to prune shrubs before they are planted. This is likewise the only time the roots can be pruned. Cut off damaged or frayed roots just above the point affected. Thin out tops of many branched

shrubs, removing the old wood. Cut tops back from one-third to one-half. (See illustration, page 7.)



Wrong
Hole too
small, roots
crowded.

Right
Hole large,
roots spread
out.

Prune branches at points indicated by black lines, do not clip ends, cut off broken roots.

With branched Apple and Pear Trees, select three to five side branches on different sides of the trunk and 6 to 8 inches apart and cut back one-third their length. Select one of the top upright branches and cut it back in proportion to the side branches. Cut off all other branches close to the trunk. (See illustration, page 5.)

With Apple and Pear Whips having no side branches, simply cut off the top just above a bud 2 to 2½ feet from the ground. (See illustration page 5.)

How to Prune Before Planting—Cont.

With **Peach** and **Plum**, cut off the top about 12 to 30 inches from the ground and cut off any side branches about an inch from the trunk so as to leave one or two buds.

One-Year Sweet Cherry are usually whips. Cut the top off just above a bud 1 to 1½ feet from the ground.

One-Year Sour Cherry and **Two-Year Sweet** are usually branched. Select three to five side branches, well spaced and on different sides of the trunk and cut off all other side branches close to the trunk.

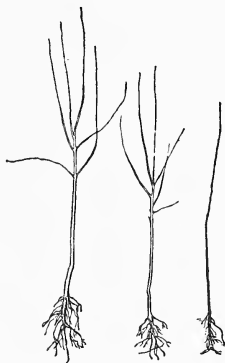
Raspberry, Blackberry and **Dewberry**, after transplanting, should have the tops cut back to within 6 inches or less of the ground. Usually that is the way they come from the nursery.

Strawberry Plants are easier to handle when transplanting if the roots are sheared off a little, leaving them about 4 inches long. (See illustration, page 13.)

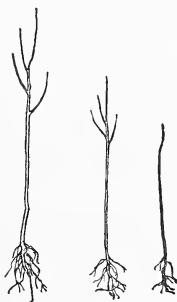
With **Grape Vines** leave just one cane and cut it back to two or three buds.

Set **Privet** for hedges with the branches several inches below the ground and cut off the tops 4 to 6 inches above the surface. (See illustration, page 9.)

With **Roses** cut out entirely all weak or broken canes. Cut back the remaining branches so as to leave only four to six buds to a branch. If planted in the fall, mound up the dirt around them and cover the ground with straw, leaves or similar material.



A 3 year old, 2 year old and 1 year old apple tree before pruning.



A 3 year old, 2 year old and one year old apple tree after pruning. Try not to leave two branches nearly opposite, they will form a bad crotch when the tree is older.

How to Prepare the Ground for Planting



SPADE DEEPLY

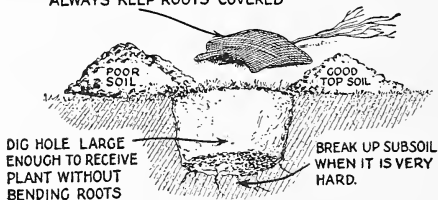
Prepare all shrubs by spading. The deeper the ground is spaded the better. On hillsides where the beds would wash, the plants may be set in holes in the sod. All ground to be set to berries and fruit should be plowed and harrowed before planting operations start.

How to Plant Trees and Shrubs

Do not let the roots become dry. Keep them covered at all times with damp sacks or something similar.

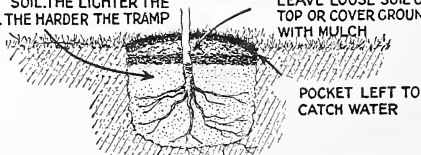
Cut off broken or bruised roots just above place of injury. Shorten any roots that are overlong with a sharp knife or sharp pruning shears. See below and next page.

ALWAYS KEEP ROOTS COVERED



FILL HOLE AND TRAMP SOIL. THE LIGHTER THE SOIL THE HARDER THE TRAMP

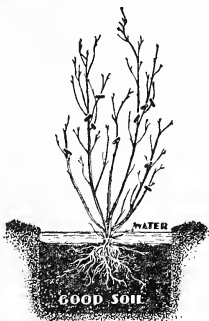
LEAVE LOOSE SOIL ON TOP OR COVER GROUND WITH MULCH



NOTE -- MANURE, UNLESS WELL ROTTED AND THOROUGHLY MIXED WITH THE SOIL SHOULD BE USED ONLY ON TOP IF USED AT ALL.

How to Plant Trees and Shrubs—Cont.

Dig generous sized holes with perpendicular sides (never saucer shape.) Put the good dirt to one side so that you can use it around the roots. Loosen up the soil in the bottom of the hole. Set trees one or two inches deeper than they stood in the nursery; set shrubs at about the same depth they stood in the nursery or slightly deeper. Spread roots out naturally and work soil over and around them. Keep putting in good dirt until the hole is nearly full, tramping the dirt firmly about the roots. If the ground is dry, pour in a bucket of water. Finally fill up the hole with loose dirt which should not be tramped (see illustration to right and at bottom of page 6). At planting time all trees and plants must be pruned if best results are to be expected the first year. Trim trees as shown in the illustration on page 4. Cut back shrubs one-third to one-half as indicated by black lines in illustration to the right. If shrubs are heavily branched, cut out a few whole branches at the base.



Distance Apart to Plant

Shade Trees

Large growers, like Elm.....30 to 50 feet
Medium growers, like Sugar Maple.....25 to 40 feet

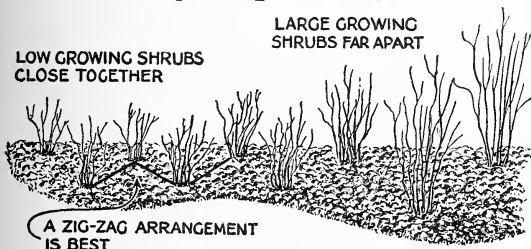
Shrubs [In Beds]

Small dwarf varieties.....1 to 2 feet apart
Medium tall growers.....1½ to 3 feet apart
Tall growers.....3 to 6 feet apart

Spacing Shrubs

LARGE GROWING
SHRUBS FAR APART

LOW GROWING SHRUBS
CLOSE TOGETHER



A ZIG-ZAG ARRANGEMENT
IS BEST

Distance Apart—Fruit Trees and Small Fruits

The locality and soils should be considered in spacing fruit trees. Orchard fruits especially make a more vigorous growth in heavy soils. Again some varieties are small growers and the others are vigorous.

As a general rule the following distances are suggested:

Apples	30 to 40 feet each way
Sweet Cherries	30 to 40 feet each way
Pears, Apricots, Plums, Peaches	16 to 24 feet each way
Quinces	16 to 20 feet each way
Grapes	6 by 8 feet to 8 by 10 feet
Currants, Gooseberries	4 by 6 feet to 6 by 8 feet
Raspberries	3 by 6 feet to 5 by 8 feet
Blackberries	4 by 7 feet to 6 by 9 feet

In case of dwarf apples or pears the distance may be one-half of the distance recommended for standard varieties.

EVERGREENS [Planted for Windbreak]

For results in 6 years or more10 feet apart

For results in 4 years5 feet apart

(Take out every other tree later.)

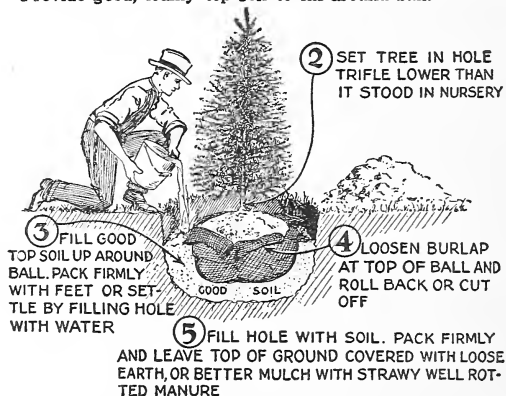
For results in two years.....2½ feet apart

(Gradually thin out to 10 feet apart as trees develop.)

How to Plant Evergreens

(1) Dig hole a foot larger and deeper than ball of earth.

Provide good, loamy top soil to fill around ball.



NOTE: Evergreens with bare roots are planted the same as trees. (See pages 6 and 7.) Take care never to leave the roots exposed a single moment.

How to Plant Hedges



SET HEDGE TRIFLE LOWER THAN THEY WERE IN NURSERY TO GET A DENSE HEDGE AT BOTTOM

DIG ONE SIDE OF TRENCH STRAIGHT AND IN LINE, PLACE PLANTS AGAINST THIS SIDE TO GET A STRAIGHT HEDGE

Set Privet and similar varieties 6 to 12 inches apart.

Set Barberry and other medium tall bushy shrubs 1 to 2 feet apart. Set tall shrubs for high hedges 2 to 4 ft. apart.

How to Trim Hedges

At planting cut tops back to 4 or 6 inches above the ground. Each spring the hedge can be trimmed back to the desired height and width. Frequent trimming during early summer will make the hedge grow dense. Trim both the sides and the top or else hedge will grow wider at the top and become open at the bottom.



Right



Wrong

Spring Planted BULBS and TUBERS

Spring Planted Bulbs and Tubers include cannas, dahlias and gladioli, and they cannot be treated as other bulbs as frost is fatal to the tubers. Dig them up in the fall before the ground freezes and after they have been thoroughly dried and cleaned, store them where they will not dry out in a cool cellar in shallow boxes. Plant them in spring as soon as danger of frost has passed.

Cannas should be planted about 2 feet apart and 3 to 4 inches deep. Give plenty of water during summer.

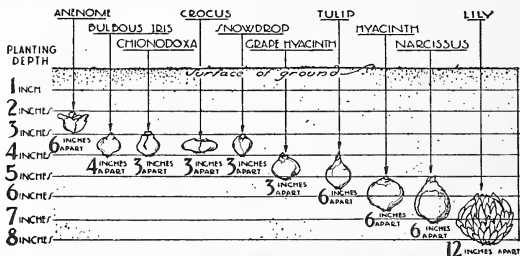
Dahlias should be planted not closer than 18 inches apart and 6 inches deep, laid flat, eyes and sprouts up.

Gladioli. Plant gladioli 2 to 4 inches deep and 4 to 6 inches apart, in rich soil in a sunny place.

Lilies. The most desirable soil for lilies is a loose sandy loam which will be enriched by top dressing of manure and should be well drained. Plant lilies in groups about 6 inches deep and 8 to 12 inches apart. Never allow manure to come into direct contact with the root bulbs. They may be left in the ground from year to year.

Fall Planted Bulbs

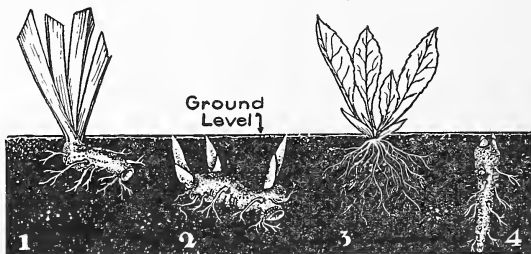
Fall Planted Bulbs such as tulips, common narcissus, daffodils, hyacinths, should be planted in specially prepared beds which possess good natural drainage. The most satisfactory soil for growing bulbs is a fibrous loam well supplied with sharp sand. See planting chart below.



How to Plant Perennials

The soil should be well worked and free of big lumps and air pockets. The average planting distance for perennials is 1 foot apart. Vigorous growers like peonies and mallows require as much as 3 feet apart. No. 1 plants (see below), such as iris, should be planted with the main root just below the surface of the ground. No. 2 plants, such as peonies, should be planted with the tips of the buds at or just below the surface of the ground. No. 3 plants, in which the leaves spring from a crown, should be planted with this crown on the level of the dirt line. No. 4 plants, such as hollyhocks, should be planted with the root straight down and the bud just below the surface of the dirt. Spread roots out naturally. Bring the soil in contact with all roots and press firmly. If the plants are watered, water the roots and not the tops.

To prevent injury by severe winters, apply a mulch of strawy, **well rotted** manure after the ground is frozen.

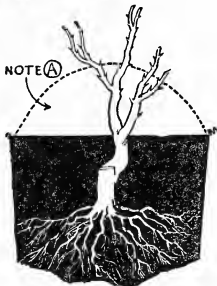


How to Plant ROSES



Planted wrong.
Not deep enough,
roots bunched.

Roses require a plentiful supply of organic matter in the soil and thorough drainage. An improvement in both soil conditions and drainage can be gained by proper preparation of the beds. Of course, the rose bed should not be located in a place where the surface drainage is bad. The water should



Planted right. Roots
spread out, deep
enough.

be made to drain away from, rather than toward the beds.

Excavating the bed to a depth of three feet is none too deep. At this depth a layer of stones will provide drainage when it is needed. Filling the bed in layers of manure, then dirt, then manure, until the bed is filled, allowing for a settle, will provide a deep fertile soil which the roses will respond to by producing a rich growth and many flowers. Roses like a medium heavy soil.

The manner of planting the rose is the same as planting a shrub but they are pruned differently. All **grafted roses** should be planted deep enough to bring the joint between the root stock and top **at least 3 inches below the surface of the ground**. Unless this is done the strong sturdy root is liable to send up a shoot which, if not cut off, will flourish and cause the grafted top to die.

The pruning of roses for planting differs according to the type of rose planted. Cut back the weaker growth. When planting in the fall, the dormant rose should be cut back about one-half its length. Prune again in the spring, leaving but 2 or 3 stems with 4 or 5 buds on each stem. Cut back spring planted roses to two or three stems with four or five buds on each.

NOTE A: Fall planted roses can be protected by mounding up the dirt around them and covering the ground about with litter to prevent alternate freezing and thawing.

Spacing Roses

	Planting Distance	
	Close	Normal
Bush Roses	2 feet	2½ feet
Hybrid Teas	1½ feet	2 feet
Hybrid Perpetuals	2 feet	2½ feet
Climbers, on banks	2½ feet	3 to 4 feet
Climbers, on fences	8 feet	10 to 15 feet

How to Plant Bush Fruits

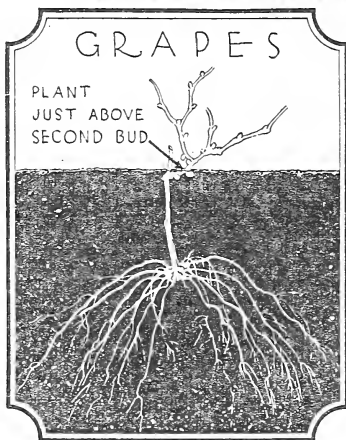
Currants and Gooseberries

Set 2 or 3 inches deeper than in nursery. Cut off half the tops and plant 4 or 5 feet apart and cultivate; for a commercial planting they should be given more room, 5 by 7 feet. Every year, soon as fruit is gathered, cut and burn all wood 3 years old. Let 5 or 6 new shoots come each year. To prevent worms eating the leaves, every year, as soon as the fruit is set, spray thoroughly with arsenate of lead, especially the lower branches where the worms always start.

Raspberries and Blackberries

Plant in good garden soil 3 or 4 feet apart in rows 6 feet apart. In planting **Black Raspberries**, set them so bud in center of mass of roots is covered only one inch deep, using care not to break this bud. Tramp soil firmly over the roots. Don't bury the center bud too deep, the plant will be smothered. **Red Raspberries** should be set 1 to 2 inches deeper than they were in the nursery. Cut back all raspberries as soon as planted to within 6 inches or less of the ground. Don't let any fruit set first year. Cultivate between rows enough to destroy weeds and sprouts, not allowing the new shoots to make rows over 6 to 8 inches wide. After fruiting, cut out old canes and burn, leaving a few vigorous new ones to grow for fruiting the following year. Mulching always pays. In the spring, spray raspberries just before the buds open, with lime sulphur or Bordeaux mixture.

How to Plant Grapes



Dig the hole as broad and deep as if a three year apple tree were to be planted. Fill the hole up to the right depth for planting with compost or rich soil. A few old bones in the bottom of the hole will make rich feeding for the vines later on. Trim the roots slightly and cut back the top to three or four strong buds. Use rich soil around roots. Always plant firmly. Leave a mulch of strawy manure over plant.

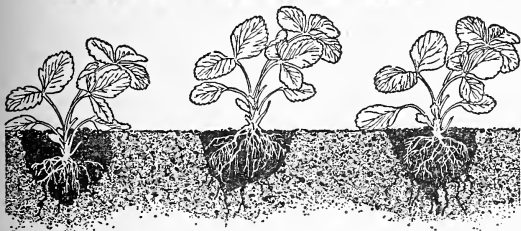
Asparagus and Rhubarb

Plant **Rhubarb** 3 feet apart in rich garden soil, with the buds 1 inch below level of the ground.

Set **Asparagus** in rich soil a foot apart in a furrow 6 inches deep. Cover 3 inches and tramp. In hoeing, work soil towards plant so that by mid-summer the ground is level. Do not cover 6 inches deep at first or plants will be smothered. Cut sparingly the second year, after that cut all shoots 6 or 8 inches high until about the middle of June, then let tops grow.

Fertilize Rhubarb liberally with stable manure every year; also Asparagus when through cutting in June.

How to Plant Strawberries



TOO DEEP TOO SHALLOW JUST RIGHT

Plow or spade land deeply before planting. Plant with a spade. Push spade into ground to its full depth in spot where plant is to be. Press it to one side, insert roots and spread them out in fan shape and hanging down to their full length. Set plant with crown at surface or a little below it. (See illustration.) Remove spade and press dirt against roots by placing foot on either side of the plant and tramping lightly with ball of feet. Leave loose soil around plants. Remove all young leaves.

Extremely long roots may be cut back, leaving two or three of the older ones. Carry plants in pail of water. It will pay to water each plant after planting.

Number of Trees or Plants on an Acre

2 feet each way....10,790	12 feet each way.....302
3 feet each way.... 4,850	15 feet each way.....194
4 feet each way.... 2,723	18 feet each way.....135
5 feet each way.... 1,742	20 feet each way.....110
6 feet each way.... 1,210	24 feet each way..... 71
8 feet each way.... 680	32 feet each way..... 40
10 feet each way.... 430	

To ascertain the number of plants required to the acre at any given distance, divide the number of square feet (43,560) in an acre by the number of square feet you desire to devote to each plant. For instance, in strawberries planted 1 by 3 feet, each hill will occupy 3 square feet, making 14,520 plants to the acre.

Care After Transplanting

Pruning Trees and Shrubs. After trimming back and pruning the limbs of ornamental trees, when planting, they need only enough trimming to shape them properly. Low side limbs should not be removed to raise the head until after two season's growth, when they may be gradually removed until the head is at the desired height. Shrubs need heading-in of the limbs getting out of bounds and the cutting out of older wood occasionally to keep them in the proper form. The general rule is to trim fall blooming shrubs, like hydrangeas, in the spring, and spring blooming shrubs, like spireas, in the early summer directly after they have bloomed.

Cultivation. Frequent shallow cultivation will produce a dust mulch and conserve much needed moisture in the soil. That is the most practical method of handling larger plantings. It should not be continued after the middle of August, otherwise the trees may not have time to mature and harden in preparation for winter.

In the Orchard it is best to cultivate all trees the same as you would corn, for several reasons, until they are large enough to shade the ground between them. During the summer it is a good practice to put in a leguminous cover crop. A cover crop will protect the soil and help prevent blowing and washing. It improves the chemical and physical condition of the soil by adding humus.

Mulching. For only a few trees, shrubs, etc., a mulch of such materials as grass clippings, old strawy manure, marsh hay or dead leaves may be used instead of a dust mulch.

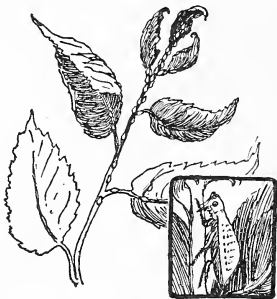


Fig. 1—A Common Aphis. An insect which sucks out the vital juices of the plants. It is found on the young growth and on the under side of the leaves. The leaves usually wither and curl on the infested part.

Watering. Artificial watering, as an emergency measure in case of drought, is highly desirable. In any case water thoroughly. Do not sprinkle. Give the plant all the water it will take at one time. No more water need be applied for several days when this is done.

Fertilizing. A good barnyard manure is the best fertilizer. When needed, a good application of manure applied around the orchard tree under the branch drip will be very beneficial.

Small fruits of all kinds should be well fertilized every year. Manure Strawberry patch when plowing but not after plants are set.

Insect Pests

There are two classes of bugs and insects that may attack trees and plants. The first class eats the plant tissue and are best controlled by poisons which they take into their stomachs.

The second class is not as easy to control since they can be killed only by hitting each individual with the insecticide.

Plant Diseases. These may be classed as physiological, bacterial and fungous. Good culture will aid materially in preventing these troubles. Spraying also should be preventive.

Although spraying is one of the most expensive of the several orchard operations, it is absolutely essential to the production of high class fruit. It isn't a question any more of can you afford to spray but rather can you afford not to. It must not be assumed that spraying operations are uniformly successful. Success depends upon a thorough application of the right material at the proper time, or maybe several times. Of course to accomplish this one must first become familiar with the insects or diseases that infest the orchard.

Remedies for Sucking Insects

Sap sucking insects (see figure 1), such as aphids or plant lice which suck the juice from the green leaves are best controlled by some tobacco solution as Blackleaf 40, Nicotine Solution, etc. They may be washed off of shrubs with the hose.

Sap sucking insects, like scale which suck the juice from the twigs or branches and even from the trunk itself, are best controlled by some dormant spray, such as Lime Sulphur solution, Kerosene Emulsion, etc.

Remedies for Chewing Insects

Leaf eating insects (see figure 2), such as beetles, weevils, grubs, worms, etc., are controlled by poison applied to the leaf.

Arsenate of Lead, Paris Green, Hellebore, etc., are most commonly used.



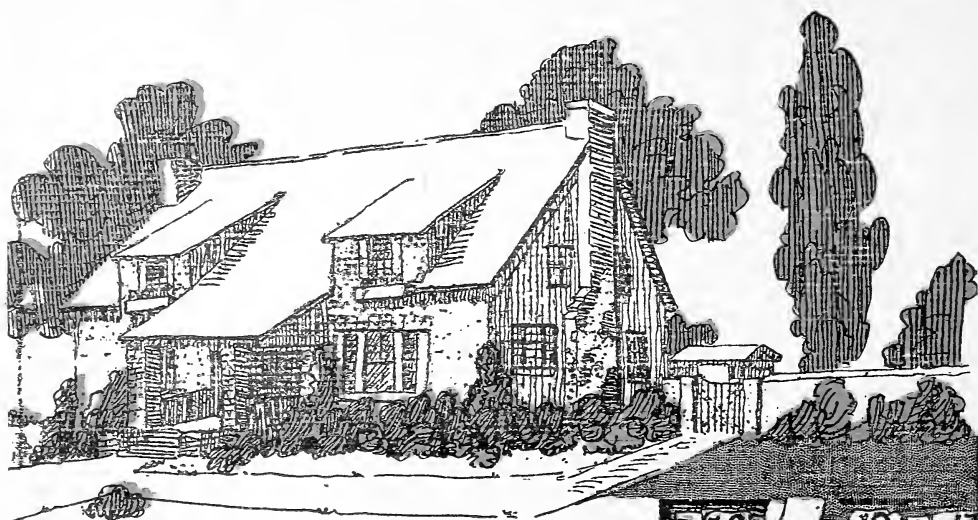
Fig. 2—A Common Worm. One form of chewing pests. Chewing insects eat the leaves of the plant entirely or eat holes in leaves.



List of Perennials for Succession of Bloom

Common Name	Botanical Name	Color	Height (ins.)	Season
Rockcress	<i>Arabis alpina</i>	White	6	April
Mosspink	<i>Phlox subulata</i>	pink, white	8	April
Goldentuft	<i>Alyssum saxatile</i>	yellow	8	April
Lily-of-the-Valley	<i>Convallaria majalis</i>	white	8	May
Florentine Iris	<i>Iris florentina</i>	lilac, white	24	May
Primrose	<i>Primula veris</i>	yellow maroon	8	May, June
Bleedingheart	<i>Dicentra spectabilis</i>	rose	24	May, June
Columbines	<i>Aquilegia various</i>	various	18	May, July
Mountain-bluet	<i>Centaurea montana</i>	blue, white	18	May, Sept.
Virginia-bluebell	<i>Mertensia virginica</i>	blue	12-18	May
Tufted Pansy	<i>Viola cornuta</i>	purple, violet white	8	May, Oct.
Forget-me-not	<i>Myosotis various</i>	blue	8	May, Aug.
Rock Speedwell	<i>Veronica rupestris</i>	blue	6	June
Bearded Iris	<i>Iris various</i>	various	24-48	June
Blue Flax	<i>Linum perenne</i>	blue, white	18-24	June-Sept.
Snow-in-summer	<i>Cerastium tomentosum</i>	white	8-10	June
Canterbury-bells	<i>Campanula medium</i>	blue, pink, white	36	June
Sweet-william	<i>Dianthus barbatus</i>	various colors	24	June
Peony	<i>Paeonia</i>	various colors	36	June
Foxglove	<i>Digitalis purpurea</i>	rose, white	48	June
Wild-indigo	<i>Baptisia australis</i>	blue	36-48	June
Pink Daisy	<i>Pyrethrum coccineum</i>	crimson to white	24	June
Oriental Poppy	<i>Papaver orientale</i>	orange, scarlet	36	June
Tickseed	<i>Coreopsis laceolata</i>	golden	24	June-Aug.
Maltese Cross	<i>Lychnis chalcedonica</i>	scarlet	36	June
Lemon Daylily	<i>Hemerocallis flava</i>	lemon	24-36	June
Clove Pink	<i>Dianthus plumarius</i>	various colors	8-12	June-Sept.
Bleedingheart	<i>Dicentra eximia</i>	rose	18	June-Sept.
Hardy Larkspur	<i>Delphinium</i>	violet blue	48-60	June-Sept.
European Mint	<i>Nepeta mussini</i>	violet	18	June, Aug.
Lupine	<i>Lupinus polyphyllus</i>	various colors	36	June
Hollyhock	<i>Althea rosea</i>	various colors	48-12	June
Blanketflower	<i>Gaillardia aristata</i>	crimson and gold,	18	July
Bergamot	<i>Monarda didyma</i>	scarlet	24	June-Oct.
Hardy Phlox	<i>Phlox decussata</i>	various colors	24-36	July
Spike Speedwell	<i>Veronica spicata</i>	violet	12-18	July
Babysbreath	<i>Gypsophila paniculata</i>	white	36-48	July
False-dragonhead	<i>Physostegia virginica</i>	rosy pink	48	July
Goldenglow	<i>Rudbeckia laciniata</i>	gold	60-86	July
Butterflyweed	<i>Asclepias tuberosa</i>	orange scarlet	24	July
Beard-tongue	<i>Penstemon torreyi</i>	scarlet	48-60	July
Bluebell	<i>Campanula carpatica</i>	blue, white	12	July
Balloonflower	<i>Platycodon grandiflora</i>	purple, white	24	July-Aug.
Big Plantainlily	<i>Hosta, Funkia grandiflora</i>	white	24	July-Aug.
Gayfeather	<i>Liatris pycnostachya</i>	rosy, purple	36	July
Purple Loose- strife	<i>Lythrum salicaria</i>	rosy, purple	36-60	July
Marshmallow	<i>Hibiscus moscheutos</i>	various colors	48-72	July-Aug.
Helenflower	<i>Helenium autumnale</i>	maroon, gold	48-60	Aug-Sept.
Torchlily	<i>Kniphofia or Tritoma</i>	bright scarlet	36	Aug-Sept.
New England Aster	<i>Aster novae-anglae</i>	violet	48-72	Sept.
Clump Speedwell	<i>Veronica subsessilis</i>	violet	24-36	Aug-Sept.
Hardy Chrysan- themum	<i>Chrysanthemum</i>	various colors	24-36	Sept-Oct.
Anemone	<i>Anemone japonica</i>	white pink	24	Sept-Oct.
Narrowleaf Sun- flower	<i>Helianthus orgyalis</i>	yellow	96-120	Sept-Oct.
Larpenle Plum- bago	<i>Ceratostigma plumbaginoides</i>	blue	6	Sept-Oct.
Tartarian Aster	<i>Aster tatarica</i>	blue	96	Sept-Oct.
Maximilian Sun- flower	<i>Helianthus maximiliani</i>	yellow	96-108	Sept-Oct.

Foundation Evergreen Planting



1. Pyramidal Arborvitae, *Thuja occidentalis*.
2. Gray Red Cedar, *Juniperus virginiana glauca*.
3. Retinospora Threadleaf, *Chamaecyparis pisifera filifera*.
4. Pfitzer Juniper, *Juniperus chinensis pfitzeriana*.
5. Siberian Arborvitae, *Thuja occidentalis sibirica*.
6. Oriental Arborvitae, *Thuja orientalis* (Bista).
7. American Arborvitae, *Thuja occidentalis*.
8. Hemlock, *Tsuga canadensis*.
9. Canada Yew, *Taxus canadensis*.
10. Plume Retinospora, *Chamaecyparis pisifera plumosa*.
11. English Ivy, *Hedera helix*.
12. Mugho Pine, *Pinus mughus*.
13. Fragrant Honeysuckle, *Lonicera fragrantissima*.

